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TYPICAL FAMILY-OPERATED FARMS, 1930-45

ADJUSTMENTS, COSTS, AND RETURNS

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BUREAU OF AGRICULTURAL ECONOMICS

APRIL 1946

This publication is designed as a statistical summary with a minimum of discussion and is one of the first two in a series of reports on the analyses of data on typical commercial family-operated farms. Even as this publication is in process, reports are being prepared and plans have been made for the processing and releasing of other reports and digests dealing with various phases of the project.

A companion report, F.M. 56, "Typical Family-Operated Farms, 1930-45, An Historical Look to the Future," (a graphic summary) deals more generally with certain aspects of the material presented herein. Another publication, "Typical Family-Operated Livestock Ranches, Montana, 1929-45, Adjustments, Costs, and Returns," treats in considerable detail operations and income on cattle and sheep ranches; another deals with operations of typical northwestern wheat-pea farms. Two other reports will deal with cotton farming and with tobacco farming.

Projects are now under way in 26 areas (see fig. 1, page 5) and more are under consideration. It is expected that the information on each of these projects will be kept current and that additional reports will be presented from time to time.

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TYPICAL FAMILY-OPERATED FARMS, 1930-45, ADJUSTMENTS, COSTS, AND RETURNS

By Wylie D. Goodsell, Ronald W. Jones, and Russell W. Bierman
Agricultural Economists 1/

INTRODUCTION

It is well known that farmers throughout the Nation have contributed immensely to the winning of the war by adjusting their operations, under severe handicaps, to produce food and fiber as never before in history. How well can we expect farmers to adjust to the changed demands and conditions of peace? This is the crucial question now and it will probably assume more importance and attention, particularly among farm groups, in the months ahead as the disastrous conditions abroad are alleviated.

A 16-year record is here shown of farm adjustments and income on common family-operated farms throughout our major agricultural regions, through war and peace and through good years and bad, as measured by prices, costs, drought, depression, and demand. This record should contribute materially to formulating and building sound agricultural programs for the immediate future and for the forthcoming years.

Good times and bad times have had their effects upon the incomes and well-being of all farmers, but their influences have been far different from farm type to farm type, and from area to area. Because their farm organizations were more flexible and their land more suitable for all-round cropping and the production of certain crops in high demand particularly during wartime, some farm operators have been in a far better position to take advantage of their opportunities, and thus contribute measurably to the national welfare and also to live successfully through periods of misfortune.

1/ The authors have drawn freely from information collected by State agricultural statisticians, State offices of the Field Service Branch of the United States Department of Agriculture, and from information published by State experiment stations. They have also received assistance from several members of their Bureau and other Federal and State agencies.

Changes in farm organization, production, mechanization, practices and labor efficiency during the last 15 years, and more particularly during the last decade, have been far more significant and broader in scope than is generally recognized. Operators of family-operated farms in some areas and particularly of some types have increased their size of farm, their emphasis on certain crops and livestock production, their use of improved varieties and higher yielding seeds, and their use of machinery and power equipment. The speed with which these changes in crop and livestock systems have been made and with which technological changes have been adopted have varied widely from type of farm to type of farm and from farming area to farming area.

The man-land-capital ratio on some family-operated farms has been sufficiently high to permit the operators to advance with the tide of technology that has given each of them an opportunity to handle more resources more skillfully. Other farmers have lacked sufficient resources, particularly land and capital, to permit them to take advantage of such opportunities. Labor-saving machines, better crop rotations, improved crop varieties, better livestock and other good farming practices have yielded almost continually increasing returns where put into use on operating units of appropriate size.

This report is therefore intended for the administrators, the researchers, and the students and individuals who are interested in the various aspects of agriculture and agricultural development. It presents basic data on farm organization, production, production efficiencies, mechanization, investment, income, prices, costs, and returns to capital and labor in each year from 1930 to 1945 on commercial family-operated farms of given sizes and types in a number of the more important agricultural areas in the United States. There is a minimum of discussion.

This information is based on data from diverse sources. Some is obtained on individual farms and from summaries of crop-correspondent inquiries including acreages and yields of crops and yields and disposition of livestock by classes. Some comes from A.A.A. tabulations on individual farms giving size of farm, tenure, crop acreages, livestock numbers and related statistics. Some has been derived from field surveys, from farm-management association and cost-account reports, and from the United States Census of Agriculture.

The information given in this publication (which reports on only a portion of the farms under consideration and in prospect and on one phase of the analyses only) is based only on organizations and operations on commercial family-operated farms. It excludes part-time self-sufficing, corporation, and large-scale farms. (A later study is designed for treatment of plantation and large-scale farming.) It is upon these and

other commercial family-operated farms that the Nation depends largely for its food and fiber. It is upon these farms that economic stresses and strains on the agricultural plant are assessed and here the bulk of the adjustments will be made to meet any increased demands and production for emergency conditions. It is upon the commercial family-operated farms that farmers' production possibilities are revealed through analyzing the physical organizations and appraising their resources for production. Upon these farms sound farm organization and agricultural programs will be required and will yield results.

Family-operated farms, however, like the individuals who operate them and like the rank and file of people in any community, differ from each other in size, in ability and capacity to produce, and in most other general features. To provide a sound basis for discussion and analysis and to obtain significant and useful information on organization, adjustments, production, income, costs, and related factors on farms in a given area it is first necessary to group farms by type. To provide useful information on the economic well-being of farmers and to make comparisons of farm organization, adjustments and economic well-being among farms and farm groups, it is necessary to consider all farms in a rather wide range of sizes within a given type. Each of the farm organizations presented in the discussion which follows is set up, therefore, so in every detail it is the average of all common-sized commercial family-operated farms of that type in a designated area. Each changes in size and constitution as the rank and file of family-operated farms of a given type change.

Each of these farm units is therefore an "area-type" farm organization which represents the great mass of commercial family-operated farms of the respective type in the area. In each particular, each "area-type" farm is the mean or the average of commercial family-operated farms of a given type, the limits of which span the practical range of family-size farms of the specified type in the designated area. Some farms of the same type in the designated area are too large to be considered family-operating units and may offer the operator more opportunity for his labor, capital, and other resources. Other farms of this same type in the area are too small to be considered family-operating units and neither provide the family the opportunity for use of its resources nor offer opportunity for adjustments and income equal to that found on these commercial family-operated farms. By excluding these extremes which represent a relatively small percentage of the farms of their respective types the group is made much more uniform, improving rather than limiting the usefulness of these data. The organization of the commercial family-operated farm established to serve the purposes of the present analysis thus may not be exactly like an individual farm of a particular size and type.

Although each of these family-operated farms differs from the other in location, size, productiveness, and in many other factors, essentially the same general procedures and methods are used in sampling, collecting, assembling, processing and analyzing the data for them all. This permits direct comparison among the farms of many items of information.

This report does not give all the details and analyses on these common family-operated farms (intensive analyses of these data are planned for subsequent reports) nor does it represent completely and with finality all the agriculture in the respective areas. Information on other sizes and types of farms is desirable before a more complete analyses of the agriculture can be made.

To permit certain analyses that are necessary for a more complete understanding of the operations and returns of farms and to provide an insight into the distribution of income among farms by type for specific research and administrative purposes, plans were made for obtaining and analyzing data for two or three different sizes of farms in addition to the "area-type" farm in each of the areas represented in figure 1. These "size-type" farms represent common family-sized farms; sometimes near the lower, the middle, or the upper family-size units. The farm size and the farm organization on the "size-type" farms remain comparatively fixed or at most vary within narrow limits.

The area-type farms give important information on costs of production, prices, yields, production, tenure, indebtedness, income, and expense on the rank and file of family-operated farms and they provide a direct measure for comparison among farms in different areas. In addition the analyses of the "size-type" farms yields information pertaining to the organization, operation, income and related data on a specific size and type of farm but makes no attempt (as do the "area-type" farms) to measure change in size of farm and organization or to explain, or compare with other areas the income and economic well-being of families in general operating farms of a given type.

The same general methods and procedures of sampling, collecting, summarizing and analyzing the data have been employed alike on area-type and size-type farms. Summarization has already begun on the size-type farms in some areas but only the initial groundwork of obtaining the data has been performed in other areas.

It should be kept clearly in mind that this project is not designed to analyze and represent farm operations and incomes for entire type-of-farming areas. This is done only when a particular type of farm is predominant and fully representative of the particular type-of-farming area. This project is designed rather to study, analyze, and represent farming operations on family-operated farms by size and type. Areas are selected for study where a particular type of farm is common even though other types of farms may often be found in the same area. As the farms for study are selected by type this does not reduce or impair in any way the usefulness or representativeness of the analyses. Figure 1, therefore, shows the location of types of farms considered in this report and under study. It should not be interpreted as representing all types of farms in any area or as showing areas represented by types of farms studied.

The project is designed to yield current information as well as an historical picture. It is a moving picture to a certain extent showing changes in farm adjustments, production, practices, mechanization, labor utilization, income, prices, costs, and related data on commercial family-operated farms, and their effects on the economic well-being of farm families. In addition to including new types and sizes of farms as resources, personnel, and time permit; the information on each farm in the project will be kept current. As the number of farms is increased and as the series on each farm grows in length, the data will become more useful and valuable for analyzing the operations of various farmers, and for measuring and appraising the economic well-being of farm families.

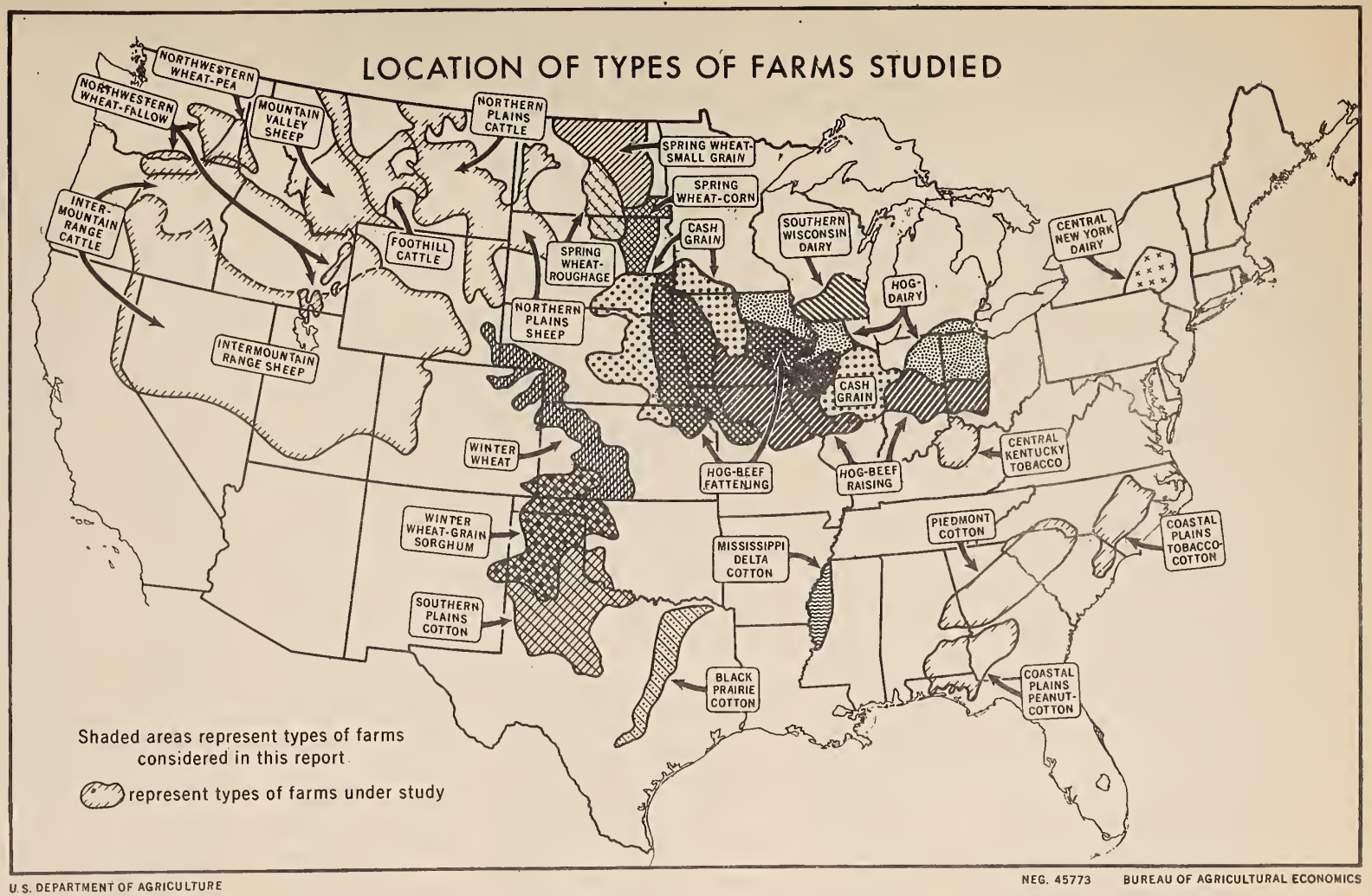

Figure 1.- Studies have been completed for 14 types of farms and results from those of the 12 other types indicated will soon be available. All analyses will be kept current to provide a continuing source of information on the various details of farm organization, operation, incomes and costs. Other types of farms are found in all of these geographic areas, but in each case the type studied is the most important one.

DISCUSSION OF TERMS USED

Although the analyses of typical farms (as the term is here used) are made in considerable detail, a concerted effort has been made to use accepted farm-management terms so far as they are consistent and are practical for these purposes. The procedure employed (in addition to assaying and evaluating the organization, the operation, and the income of the entire farm operating unit regardless of ownership) is designed to evaluate and appraise the equity of the operator, the mortgagor, and the landlord, to estimate their shares of farm income, and to appraise and allocate farm income to resources (capital, land, and labor including management). (See Example:- Farm-income statement, typical farms).

To clarify matters, where departures from some generally accepted meanings of terms has been necessary, a brief discussion is given. It should be kept in mind that all items to which these terms apply, and which are given in the tables and figures that follow, are on a per farm basis and are limited to commercial family-operated farms of a given type.

Size, Investment, and Income

In order to study and appraise fully the income, costs of production, and productiveness of farms from year to year, analyses and comparisons within the farm-operating unit and among farms of different types are necessary. To provide direct means of comparison, the information on all farms was first summarized on an operating unit basis regardless of ownership or property rights. The terms which appear under this caption (exclusive of rent and interest paid by the farm operator and operator's income) apply to the entire farm-operating unit.

Total land in farm:- The sum of total acres in crops plus acres of failure or abandoned farm land, fallow, idle, pasture, woodland, wasteland, house yards, barnyards, feed lots, roads, lanes and fences, operated under one unit from a given farmstead and with a given set of machinery and equipment. Land that is rented from others and operated in this unit is included. Land on which more than one crop is grown during the year is included once only.

Proportion rented:- The sum of the acreages rented from others by part owners and tenants expressed as a percentage of total land (both owned and rented) in typical family-operated farms. It thus becomes the proportion of all land rented from others rather than the proportion of farms rented.

Cropland harvested:- The land from which cultivated crops were harvested; land from which hay (including wild hay) was harvested; and land in fruits, vegetables, and truck. Where two or more crops were

Example

FARM-INCOME STATEMENT - TYPICAL FARMS

1.	CASH RECEIPTS:		
2.	Crops	$3,978	
3.	Livestock	1,929	
4.	Livestock products	600	
5.	Government payments and miscellaneous	417	
6.	Total		$6,924
7.	CASH EXPENDITURES:		
8.	Labor hired	$ 184	
9.	Crop and livestock expense	250	
10.	Machinery and power (incl. farm share of auto)	893	
11.	Building repair and replacement (excl. dwelling)	204	
12.	Miscellaneous	140	
13.	Taxes	300	
14.	Total		$1,971
15.	NET CASH INCOME		$4,953
16.	PERQUISITES:		
17.	Food (used for human consumption on farms where produced)	$ 248	
18.	Fuel	0	
19.	House rental (gross rental, $271) - (depreciation, $75)	196	
20.	Total value of perquisites		$ 444
21.	NET CHANGE IN INVENTORY		$1,557
22.	NET FARM INCOME		$6,954
23.	Rent and mortgage interest paid		$1,788
24.	Operator's net farm income		$5,146
25.	Operator's net cash farm income		$5,111

ALLOCATION OF NET FARM INCOME

26.	LAND AND CAPITAL		$2,841
27.	Gross rental value of land and buildings	$3,023	
28.	Total land and building expense 1/	545	
29.	Net rent on land and buildings	$2,478	
30.	Interest on machinery, livestock, feed, and supplies	$ 363	
31.	OPERATOR AND FAMILY LABOR AND MANAGEMENT		$4,093
32.	Unpaid family labor (at hired labor rates)	$ 353	
33.	Return to operator and management	$3,740	
34.	Amount paid for labor hired	$ 184	
35.	RETURN TO ALL LABOR AND MANAGEMENT		$4,277
36.	TOTAL HOURS OF LABOR USED		4,110
37.	RETURN PER HOUR TO ALL LABOR		$ 1.04

1/ Real estate taxes and depreciation on buildings including dwellings.

harvested in 1 year from the same acreage, such acreage was included only once in the acreage of cropland harvested. However, the acreage and the total quantity of each crop harvested were ascertained and credited to production.

Total labor used:- The total hours of man labor required under given standards of performance with methods and types of power and equipment used on the farms in the production, harvesting, and marketing of crops and livestock; in the maintenance and management of pastures; and in the repair and upkeep of machinery, equipment, buildings, fences and improvements, including dwellings.

Labor hired:- The total hours of labor that was hired during the year and for which wages were paid. It does not include family labor for which no cash wages were paid.

Total investment:- The estimated current value (January 1) on the typical farm of land, buildings, and improvements, including dwelling; machinery and equipment; livestock; and crops, feed, seeds, and supplies.

Cash receipts:- The total amount of cash received during the calendar year from the sale of crops, livestock, and livestock products, and from Government payments. All current marketings are included whether produced during the year or from inventories on hand January 1.

Cash expenditures:- The total cash paid during the calendar year for commodities and services used in production including all cash payments for feed, seeds, and fertilizers; livestock and livestock equipment and supplies; machinery and equipment purchases, repairs, replacements, and operations; repair and upkeep of farm buildings excluding dwelling; custom work and hired labor; and taxes, telephone, electricity, and miscellaneous items. Rent and interest payments and additions to capital such as purchases of additional land and buildings are not included under cash expenditures. Only part of the cash expenditures of operating the farm automobile is included in cash expenditures; the remaining portion is charged to the personal account of the operator. The portion of the automobile expenditure charged to the farm business differs among regions.

Value of perquisites:- The value at current farm prices of all meats and meat animals, livestock products, vegetables, fruits, cereals, fuel and wood, consumed during the calendar year by members in the farm households on farms where produced, plus a nominal rental on farm dwelling. The annual rental of the farm dwelling is estimated at 12 percent of the current value of the dwelling. This approximates estimated rental rates of similar dwellings and, over the long run, it compares closely with the total annual cost of maintaining the farm dwelling; it varies less from year to year than does the cost.

Net change in inventory:- This reflects primarily the change during the calendar year in quantity of assets. Gain or loss of income solely from changes in prices of fixed and working assets is avoided by revaluing the beginning inventory of working assets at year-end prices and excluding changes in land and building values (fixed assets) from consideration in inventory (except for purposes of estimating investment). Current assets are not revalued, on the assumption that they are intended for sale, are readily salable at a market price, and in large part are disposed of during the year. The difference between current cash expenditures for machinery and current year depreciation appears here as an inventory change. Net farm income then reflects depreciation on working capital and farm buildings as an operating expense.

Net farm income:- The annual return including change in inventory and estimated value of perquisites to the operator for his labor and management, to the unpaid members of the household for services rendered on the farm during the calendar year, and to total farm investment regardless of ownership. In terms of the previous criteria it is net cash farm income plus value of perquisites and net change in inventory.

Rent and interest paid by operator:- The total weighted average value of rent (cash, cash-share, crop-share, and livestock-share rentals) paid to landlords by farm operators plus interest paid by farm operators on their mortgage indebtedness. It is that portion of net farm income which goes to persons other than the farm family. Rent paid is the total rental value of the farm calculated as the weighted average of rental payments under common rental arrangements minus the landlord's share of crop and livestock production expenses, real estate taxes, and building depreciation, multiplied by the percentage of land in the typical farm that is rented. Interest is the average amount of interest paid during the year by the operator to mortgagors.

Operator's net farm income:- The annual return, including inventory change and estimated value of perquisites, to the operator for his labor and management and return on his investment, and to unpaid members of the farm household for services rendered on the farm during the calendar year.

Operator's net cash farm income:- Cash receipts from farming minus the operator's cash farm expenditures for commodities and services used in production including operator's cash outlays for feeds, seeds, and fertilizers; livestock and livestock equipment and supplies; machinery and equipment purchases, repairs, replacements, and operations; repair and upkeep of farm buildings excluding dwelling; custom work and hired labor; and taxes, telephone, electricity, and miscellaneous items; and including rent and interest paid by the operator.

Allocation of Net Farm Income

Net farm income includes return to the operator for his labor and management, to the unpaid members of the family for services rendered, and to capital invested in land and buildings and in working assets; therefore it becomes necessary to make some division or allocation of net farm income to obtain net return to capital and labor, including management. It seems superficial and impossible to differentiate between operator's labor and operator's management on a typical family-operated farm; no attempt is made to do so in this report. Any reference to operator's labor here also implies management.

Land and buildings:- The amount of the net farm income that is allocated as a return for the use of land and buildings on all typical farms, except that for dairy farms in southern Wisconsin and central New York is allocated on the basis of net rentals that could reasonably be expected should the land and buildings be rented out as an alternative to the owner himself operating the farm. Net rental value of land and buildings for a particular type of farm is obtained by subtracting from total rental value of the typical farm under common rental arrangements in the area, the landlord's share of production expenses under that arrangement, each weighted by the proportion of land in farms of that type rented in the respective manner in the area.

In southern Wisconsin and central New York dairy areas, where little land is rented on other than a livestock-crop share basis, a return to land and buildings based on interest rates on farm-mortgage holdings of similar character seemed to be most appropriate. The return to land and buildings on these two dairy farms, therefore, is the farm mortgage interest rate on similar holdings in the respective areas multiplied by the current investment in land and buildings on the respective typical farm.

Working assets:- The amount of net farm income allocated to working assets (machinery, equipment, livestock, crops, feeds, seeds, and supplies) is based on weighted average interest rates charged by commercial banks and Federal agencies on short-term loans in the respective regions. The allocation of income to working assets is thus obtained by multiplying the investment in these assets on January 1 by the respective interest rate.

Operator and family labor:- The return to operator and family for labor and management is that portion of net farm income that remains after returns to land and buildings and to working assets have been allocated in the above manner.

Operator's labor:- Return to operator for his labor and management is that portion of net farm income remaining after returns to land and buildings and to working assets have been allocated in the way

described and allowances have been made for the remuneration of unpaid family labor evaluated at hired laborer's wage rates without board. It can be calculated directly by subtracting the payment to unpaid members of the farm family as derived above from return to operator and family labor.

All labor:- The return to all labor is the remuneration for all labor and management used in production on the typical farm with due allowance for return to capital invested and all production expenses exclusive of labor and management. It is readily obtained by adding expenditures for hired labor to the return to operator and family labor.

Percentage return to investment:- The rate of annual return to operator and landlord on each dollar invested in the business of the typical farms as of January 1. It is obtained directly by dividing return to investment in land and buildings and working assets as defined above by total investment in farm assets and expressing the resulting ratio in percentage terms.

Return per hour to all labor used:- The return to all labor is the amount of money and money equivalent available (includes perquisites and credits in inventories) for the payment for all hired labor, unpaid family labor and operator labor and management used in production on the farm after production expenditures other than labor have been met and appropriate credit has been made for the use of capital (land, buildings, equipment, livestock, feeds and supplies) employed in the farm business. It is obtained directly by dividing returns to "all labor" by "total labor used."

Index Numbers of Production, Costs, and Returns

An integral part of this project is the developing and constructing of several series of index numbers to give summary measures of changes in several items and to permit and facilitate direct comparisons of production, prices, and costs. Important factors in explaining, measuring, and comparing incomes are changes in production and changes in the amounts of land, labor, and capital that are employed and the effectiveness with which they are utilized in production, and changes in prices and cost relationships.

Production and income have increased on nearly all farms in recent years, but the extent to which they have risen and the causes for the increase differ materially from farm to farm. Some farmers have increased production by operating more land, keeping more livestock, buying more feed, and hiring more labor. Other farmers have increased production with substantially less labor by buying more machinery and equipment, and by operating more land. In some instances substantial reductions have been made in costs of production whereas in others costs have changed very little.

To provide a direct means of measuring the effect of production, farm practices, methods of production, mechanization, prices, costs, and related factors upon farm income and the economic well-being of farm families, each item of expense and income (including perquisites and changes in inventory) was assigned weights and then all were appropriately combined into a series of index numbers. Prices received and prices paid by operators of typical farms were each respectively weighted by the quantity of the particular item sold or purchased on a particular farm. The formulae are weighted aggregates of actual prices and quantities. The formula for income or value is: $\frac{\Sigma q_1 p_1}{\Sigma q_o p_o}$; for quantity or production, $\frac{\Sigma q_1 p_o}{\Sigma q_o p_o}$; and for price, $\frac{\Sigma q_1 p_1}{\Sigma q_1 p_o}$; where p_1 and q_1 are current-year prices and quantities, and p_o and q_o are weighted average prices and quantities respectively in the base years. In most instances, weighted average prices and quantities for the period 1935-39 were employed as base weights.

During the first 5 years of the 16-year period (1930-45) covered in this report a major depression occurred; during the first 10 years several localized droughts and two general droughts occurred; and during the last 5 years an unparalleled World War occurred. The period 1935-39 gave a suitable base for prices on nearly all farms but produced a very unsatisfactory base for crop yields, crop and livestock production, and income on most farms. The 5-year period 1937-41 yielded a fairly reasonable base for production on some farms, but was too low on some farms and too high on others. Any appropriate base period for prices seemed to be unreasonable as a base for production and income. Any period that seemed appropriate for production and income on typical farms in one area gave uncomparable results in other areas.

The period 1930-44--though it contained the depression, droughts, and the war--gave reasonable average values for crop yields, crop and livestock production, mechanization, price, income, and related items. Index numbers are available for a large number of items not presented in this report. The index numbers for a few selected items, the terms of which are discussed here, are presented on 1930-44 = 100 in the following section and on 1935-39 = 100 in the last section.

Gross income:- Includes total cash receipts, Government payments, perquisites, and net change in inventory of crops and livestock. The price of feeder livestock is not considered a part of gross income on farms where bought.

Total production:- Includes all products sold, consumed and held in inventories on the farm, plus farm produced power, minus feed, seed, and livestock purchased. It thus represents the total quantity of products produced during the year on the typical farm.

Production per hour of man labor:- "Total production" divided by total hours of man labor. It represents the total physical output for each hour of man labor used in production.

Operating expense per unit of production:- "Cash expenditures" plus net depreciation incurred in the production of each unit of product. Land and buildings, working capital, and operator and unpaid family labor charges are not included in operating expense.

Total cost per unit of production:- Total farm expense including cash operating expense, net depreciation, and imputed return to operator and family labor and investment incurred in the production of each unit of product. Algebraically it is "cash expenditures" plus net depreciation and imputed return to operator and family labor and to investment, divided by total gross production. Total gross production here is the sum of all products sold, consumed, and held in inventories on the farm.

Total input per unit of production:- The total cost (excluding changes in prices) of producing each unit of product. Algebraically it is the sum of all items or units produced, each multiplied by its respective base price, divided by the sum of all items used in production, each multiplied by its respective base price; the base period is the same for both numerator and denominator. In other words, it is "Total cost per unit of production" as given above, adjusted for changes in price. All costs have been adjusted for change in price level and thus the ratio of input per unit of production or output becomes a measure of efficiency in production.

Quantity of power and machinery used:- Includes tractors, trucks, machinery and equipment, farm-produced power, and farm share of automobile, each reduced to its respective average value in 1930 and weighted accordingly by the number of items. It represents the combined amount of machinery, equipment, and power on the farm at 1935-39 average values.

Prices received for products sold:- Refers to the weighted aggregates of actual prices received for all products sold by producers on typical farms. It is the sum of the prices received for each item sold in the current year weighted by the respective quantity of the product sold in the same year divided by the sum of the weighted base year (1935-39) prices received for each item sold weighted by the respective quantity of the product sold in the current year.

Prices paid including wages to hired labor:- Refers to the weighted aggregates of actual prices paid by operators of typical farms for all goods and services used in production and maintenance. It is the sum of current-year prices paid, including wages, each weighted by the quantity of the respective commodities or services bought in the same year, and divided by the sum of base year (1935-39) prices paid for each item purchased weighted by the amount of goods and services bought in the current year. The formula for both prices paid and prices received is: $\frac{\Sigma q_1 p_1}{\Sigma q_1 p_0}$, p_1 and q_1 being prices and quantities respectively in the current year, and p_0 being weighted average prices in the base period, 1935-39.

COMPARISON OF SELECTED ITEMS ON TYPICAL FARMS

This section presents in graphical and tabular form the information on crop yields, production, production costs, production efficiency, income, distribution of income, and price and cost relationships on all typical farms considered in this report. It shows in considerable measure the effects of changes in farm production, mechanization, practices, prices, and costs on the returns to farm families operating each of the types of farms.

It shows that annual earnings of farm families decline in periods of low production and low prices and rise during periods of high prices and increased production regardless of the type of farm; but the extent to which earnings decline and increase differs on each farm. Some farm operators—because of their favorable situations with regard to climate, soils, and topography, and the combination of enterprises they operate—have maintained production and income fairly well through bad years and good years. Other farm operators were pressed so hard and so long during the depression and droughts in the 1930's that they were forced to liquidate breeding herds on an unprecendented scale and thus were unable to take full advantage of high prices and flush conditions during the war that has just ended. Still other farm operators have had so little capital and equipment available that they could not do much more than hold their own at any time.

Incomes of dairy farmers in general have varied less than incomes of most farmers because conditions fluctuate less on dairy farms. Typical dairy farms considered in this report are fairly well balanced so far as feed and labor are concerned. Extensive increases in the dairy enterprise can be brought about only by additional outlays for equipment, feed, and labor which are some of the more expensive items. Grain farmers who are well situated, on the other hand, can alter their farming program fairly quickly to take advantage of favorable situations. Labor-saving equipment and mechanical power and equipment for large-scale operations have been available to them. In 1940-44, operating expenses per dollar of income on some grain farms were as little as 20 cents, compared with 70 cents in the early 1930's. Operating expenses per dollar of income were higher and the reduction was less in recent years on livestock farms than on grain farms. In 1940-44 operating expense per dollar of income on livestock farms was around 35 cents, about half what it was in the early thirties. Economies in the use of labor have been greater on grain farms.

Many of these relationships are shown in the tables and figures that follow. Detailed analyses and discussions of these relationships are held for later presentation.

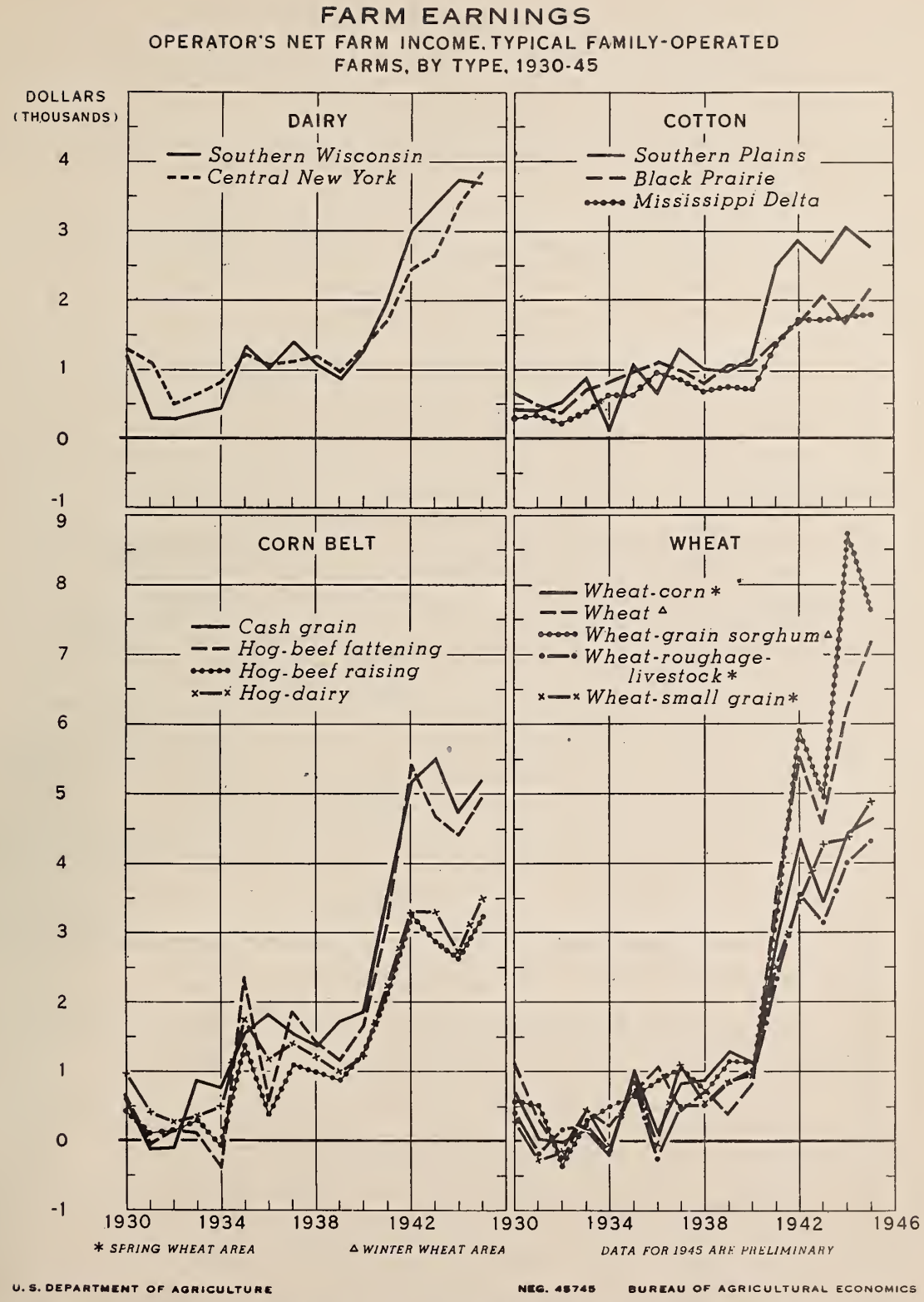

Figure 2.- Annual earnings of farm families follow the same general pattern regardless of the type of farm. Farmers have more money to spend when business is good, employment high, and factory payrolls large. But they are poor customers when city workers become unemployed and reduce their purchases of farm products.

Table 1.- Operator's net farm income and operator's net cash farm income, typical family operated farms, by type, 1930-45

Calendar year	Dairy farms		Corn Belt farms				Spring wheat farms (Northern Plains)			Winter wheat farms (Southern Plains)		Cotton farms		
	Central New York	Southern Wisconsin	Cash grain	Hog-beef fattening	Hog-beef raising	Hog-dairy	Wheat-corn-livestock	Wheat-small grain-livestock	Wheat-roughage livestock	Wheat	Wheat-grain sorghum	Southern Plains	Black Prairie	Delta of Mississippi
	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars
	Operator's net farm income													
1930	1,280	1,194	598	666	404	950	686	253	391	1,114	549	412	638	297
1931	1,092	284	- 145	- 72	102	381	17	- 273	- 172	287	508	395	458	334
1932	492	326	- 112	127	129	258	- 8	- 165	151	- 253	- 349	520	356	228
1933	628	357	843	110	293	335	162	446	229	458	281	863	685	381
1934	801	430	745	- 384	- 74	474	- 210	- 75	- 155	209	474	106	775	604
1935	1,226	1,342	1,530	2,339	1,361	1,716	1,006	902	837	689	643	1,079	949	607
1936	1,059	1,019	1,808	557	347	1,143	81	- 21	- 268	1,069	853	631	1,076	961
1937	1,099	1,386	1,564	1,830	1,086	1,393	805	1,090	505	432	1,042	1,337	989	844
1938	1,184	1,067	1,366	1,429	985	1,175	863	554	540	733	728	1,022	795	677
1939	967	858	1,723	1,132	863	995	1,277	855	841	382	1,139	972	1,051	765
1940	1,309	1,271	1,841	1,632	1,235	1,208	1,108	942	1,011	825	1,121	1,168	1,050	695
1941	1,693	1,998	3,540	3,160	2,113	2,224	2,855	2,498	2,337	3,680	3,278	2,478	1,404	1,341
1942	2,446	3,012	5,146	5,399	3,260	3,280	4,365	3,438	3,554	5,512	5,922	2,840	1,640	1,704
1943	2,653	3,389	5,494	4,678	2,848	3,290	3,443	4,274	3,140	4,584	4,967	2,537	2,040	1,712
1944	3,369	3,738	4,720	4,421	2,629	2,720	4,430	4,354	4,001	6,230	6,732	3,042	1,697	1,750
1945 1/	3,823	3,680	5,195	4,931	3,264	3,479	4,616	4,886	4,320	7,185	7,660	2,745	2,159	1,796
	Operator's net cash farm income													
1930	1,068	815	1,032	1,319	859	927	661	230	541	1,225	887	140	379	122
1931	661	428	139	462	260	405	251	90	119	466	422	236	279	140
1932	363	145	- 91	90	161	274	19	- 281	- 14	226	248	404	221	109
1933	514	303	559	266	312	302	486	409	602	410	354	748	576	217
1934	526	396	658	419	367	377	119	329	384	902	587	- 46	601	381
1935	621	597	445	454	212	809	- 86	20	- 34	265	417	569	604	392
1936	746	907	1,850	1,575	777	1,308	679	414	520	725	454	292	773	690
1937	357	714	183	495	77	510	19	- 20	- 99	129	611	972	728	588
1938	580	552	855	715	466	558	279	320	123	161	135	699	521	444
1939	674	647	1,327	855	605	686	546	245	148	164	809	721	748	583
1940	800	711	1,345	749	585	804	657	541	456	163	421	837	677	494
1941	1,182	1,383	1,723	1,799	1,075	1,284	1,075	585	805	1,395	1,258	1,886	903	1,032
1942	1,412	1,972	3,111	2,674	1,708	2,060	2,723	1,929	1,654	3,121	3,137	2,062	1,083	1,311
1943	2,092	2,891	4,826	4,204	2,441	2,685	3,820	3,453	3,009	5,631	6,502	2,106	1,544	1,275
1944	2,430	2,833	4,331	3,760	2,061	2,452	3,473	3,909	2,849	5,127	6,718	2,559	1,267	1,276
1945 1/	2,929	2,869	4,331	4,041	2,419	2,369	3,803	4,075	3,725	6,304	7,494	2,040	1,562	1,268

1/ Preliminary.

Table 2.- Net farm income and return to operator and family labor, typical family operated farms, by type, 1930-45

Calendar year	Dairy farms		Corn Belt farms				Spring wheat farms (Northern Plains)			Winter wheat farms (Southern Plains)		Cotton farms		
	Central New York	Southern Wisconsin	Cash grain	Hog-beef fattening	Hog-beef raising	Hog-dairy	Wheat-corn-livestock	Wheat-small grain livestock	Wheat-roughage livestock	Wheat	Wheat-grain sorghum	Southern Plains	Black Prairie	Delta of Mississippi
	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars
	Net farm income													
1930	1,419	1,514	1,305	1,278	639	1,202	1,004	491	565	1,574	1,055	528	793	343
1931	1,230	482	322	399	293	568	139	- 331	- 105	599	971	503	548	379
1932	597	524	212	518	270	392	116	- 126	260	- 27	- 156	673	433	255
1933	742	539	1,177	453	427	477	267	577	303	699	509	1,135	843	441
1934	927	604	1,117	- 84	23	651	- 147	- 74	- 149	470	774	269	960	711
1935	1,388	1,666	2,448	2,882	1,609	2,007	1,243	1,113	985	941	880	1,330	1,144	692
1936	1,204	1,280	2,458	965	479	1,384	165	- 89	- 255	1,393	1,214	815	1,298	1,128
1937	1,245	1,713	2,825	2,436	1,357	1,704	1,024	1,475	534	662	1,393	1,659	1,207	998
1938	1,341	1,357	2,109	1,851	1,150	1,387	1,062	738	564	1,028	1,028	1,261	935	807
1939	1,101	1,089	2,652	1,622	1,044	1,246	1,562	1,088	938	611	1,506	1,148	1,237	911
1940	1,480	1,589	2,755	2,208	1,462	1,490	1,384	1,232	1,123	1,100	1,561	1,473	1,251	829
1941	1,908	2,444	4,851	3,807	2,368	2,548	3,302	3,154	2,582	4,226	4,162	3,054	1,634	1,581
1942	2,759	3,679	6,934	6,347	3,651	3,696	5,072	4,398	3,969	6,274	7,586	3,384	1,881	2,001
1943	3,014	4,150	7,552	5,874	3,287	3,839	4,152	5,566	3,582	5,293	6,332	3,177	2,406	2,028
1944	3,804	4,621	6,926	5,766	3,128	3,291	5,403	5,793	4,524	7,245	11,629	3,772	2,034	2,065
1945 1/	4,324	4,590	7,502	6,284	3,782	4,119	5,558	6,363	4,866	8,271	10,036	3,331	2,548	2,098
	Return to operator and family labor													
1930	754	492	110	25	68	550	312	- 42	58	579	147	248	496	274
1931	621	- 421	- 448	- 511	- 123	106	- 166	- 325	- 352	- 63	209	266	388	320
1932	62	- 222	- 264	- 133	15	114	- 141	- 231	- 4	- 464	- 532	403	307	219
1933	288	- 89	720	- 79	204	215	99	332	123	319	169	719	585	356
1934	480	- 14	569	- 584	- 157	292	- 244	- 109	- 181	- 22	333	- 6	639	540
1935	911	1,014	1,071	1,929	1,126	1,367	861	749	729	472	467	906	790	548
1936	725	651	1,438	172	165	820	- 18	- 107	- 331	841	680	479	891	848
1937	762	1,052	906	1,326	783	982	643	808	462	263	867	1,121	798	735
1938	854	707	925	1,032	752	865	681	346	469	512	518	841	654	589
1939	613	459	1,194	677	605	636	1,033	635	703	191	906	817	871	665
1940	984	981	1,315	1,125	939	825	839	709	838	606	880	962	854	605
1941	1,405	1,844	2,802	2,559	1,758	1,777	2,484	2,034	2,061	3,240	2,988	2,163	1,171	1,183
1942	2,214	3,000	4,093	4,506	2,727	2,681	3,717	2,656	3,063	4,779	5,482	2,509	1,381	1,504
1943	2,364	3,363	4,192	3,433	2,168	2,465	2,673	3,145	2,470	3,733	4,346	2,109	1,634	1,488
1944	3,132	3,754	3,331	3,029	1,863	1,829	3,497	3,082	3,169	5,211	8,169	2,080	1,306	1,515
1945 1/	3,579	3,643	3,765	3,546	2,473	2,539	3,668	3,557	3,412	6,080	7,016	1,809	1,724	1,568

1/ Preliminary.

Table 3.- Return per hour to all labor, total hours of labor used and total farm investment, typical family operated farms, by type, 1930-45

Calendar year	Dairy farms		Corn Belt farms				Spring wheat farms (Northern Plains)			Winter wheat farms (Southern Plains)		Cotton farms		
	Central New York	Southern Wisconsin	Cash grain	Hog-beef fattening	Hog-beef raising	Hog-dairy	Wheat-corn-livestock	Wheat-small grain-livestock	Wheat-roughage livestock	Wheat	Wheat-grain sorghum	Southern Plains	Black Prairie	Delta of Mississippi
Return per hour to all labor used														
	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars
1930	.21	.16	.08	.07	.05	.17	.10	.04	.05	.20	.06	.09	.14	.10
1931	.17	- .05	- .05	- .05	- .01	.07	- .02	- .06	- .05	- .01	.08	.09	.11	.10
1932	.04	- .02	- .03	.01	.02	.05	- .02	- .04	.02	- .13	.17	.12	.09	.08
1933	.08	.01	.18	.02	.06	.07	.03	.10	.04	.10	.06	.21	.15	.12
1934	.13	.03	.15	- .09	- .03	.09	- .07	- .03	- .05	- .01	.12	.01	.18	.20
1935	.22	.25	.28	.43	.31	.31	.25	.24	.19	.17	.18	.29	.22	.19
1936	.18	.18	.37	.08	.06	.20	.00	- .03	- .11	.31	.27	.17	.24	.25
1937	.20	.27	.25	.31	.22	.24	.20	.26	.15	.10	.32	.36	.21	.20
1938	.21	.19	.25	.25	.21	.22	.20	.13	.15	.19	.20	.26	.19	.19
1939	.16	.14	.32	.18	.17	.17	.30	.21	.22	.07	.35	.25	.24	.21
1940	.24	.25	.36	.28	.27	.22	.24	.23	.24	.22	.33	.30	.24	.20
1941	.34	.43	.74	.60	.49	.41	.67	.61	.57	1.28	1.08	.66	.34	.38
1942	.51	.66	1.04	1.01	.74	.59	.96	.76	.79	1.67	1.82	.76	.41	.45
1943	.56	.73	1.07	.81	.61	.59	.70	.89	.63	1.22	1.38	.64	.46	.46
1944	.72	.81	.89	.75	.54	.50	.92	.89	.83	1.70	2.54	.88	.41	.48
1945 1/	.81	.81	1.02	.87	.70	.64	.98	1.06	.91	2.03	2.26	.84	.51	.48
Total hours of labor used, selected years														
	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours
1930	4,831	4,684	4,599	5,256	4,118	5,064	4,242	3,977	4,376	3,082	3,088	3,985	4,886	2,759
1933	4,650	4,739	4,642	5,256	4,109	5,141	3,760	3,826	4,228	3,259	2,895	4,601	4,750	3,010
1935	4,458	4,705	4,300	4,866	3,754	4,968	3,527	3,473	4,101	2,742	2,728	3,476	4,025	2,869
1939	4,998	4,709	4,094	5,088	3,898	5,121	3,596	3,229	3,395	2,586	2,652	3,680	3,992	3,452
1942	5,000	5,197	4,110	4,782	3,850	5,447	3,970	3,667	4,103	2,871	3,068	4,017	4,043	3,543
1944	5,179	5,514	4,128	4,915	4,000	5,589	4,066	3,865	4,497	3,152	3,326	3,706	4,304	3,491
Total farm investment, January 1, selected years														
January 1	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars
1930	11,287	17,121	35,049	29,809	16,402	16,656	18,921	17,369	17,413	26,636	26,899	10,856	13,280	3,811
1933	7,647	10,861	20,416	16,259	8,251	9,235	11,376	11,208	10,583	16,045	16,043	6,667	7,887	1,971
1935	8,345	12,052	23,650	18,138	9,184	11,398	11,447	11,144	9,884	17,049	16,525	7,886	8,563	2,531
1939	9,341	13,170	28,710	20,889	10,290	13,552	10,880	10,045	7,897	17,184	18,237	9,116	8,607	3,551
1942	10,647	14,881	32,003	25,054	13,019	16,099	13,547	12,345	10,172	20,375	21,055	10,484	9,845	4,269
1944	13,189	18,613	44,579	33,016	17,732	21,554	17,927	17,052	15,027	26,060	27,208	12,973	12,362	5,238

1/ Preliminary.

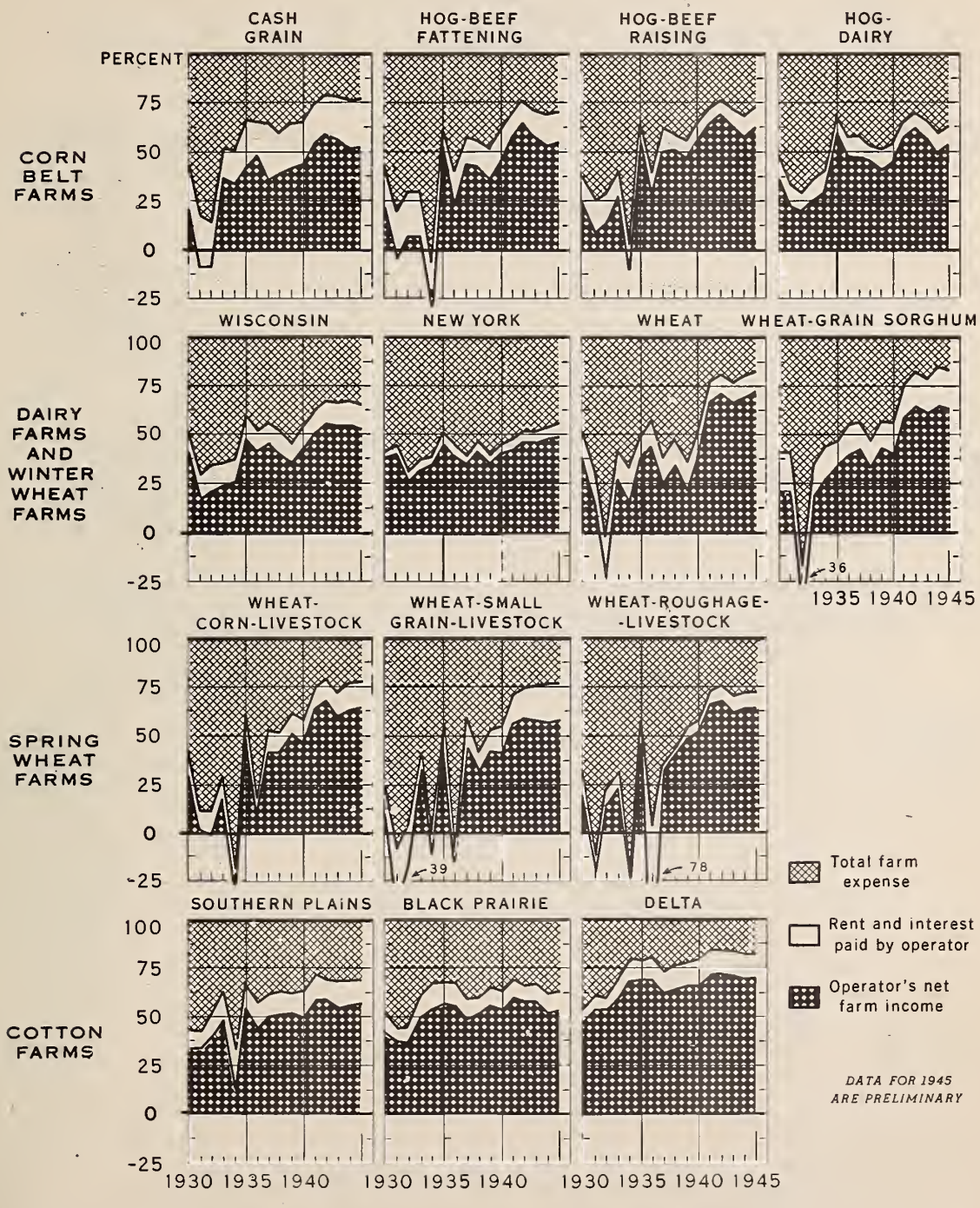

Figure 3.- Farmers really feel the pinch when farm prices are falling for the prices of things they have to buy lag behind and operating expenses take a larger-than-usual share of total income. Most rental arrangements are on a share basis. As a result, the portion of gross income going to landlords and mortgage holders varies directly with gross farm income.

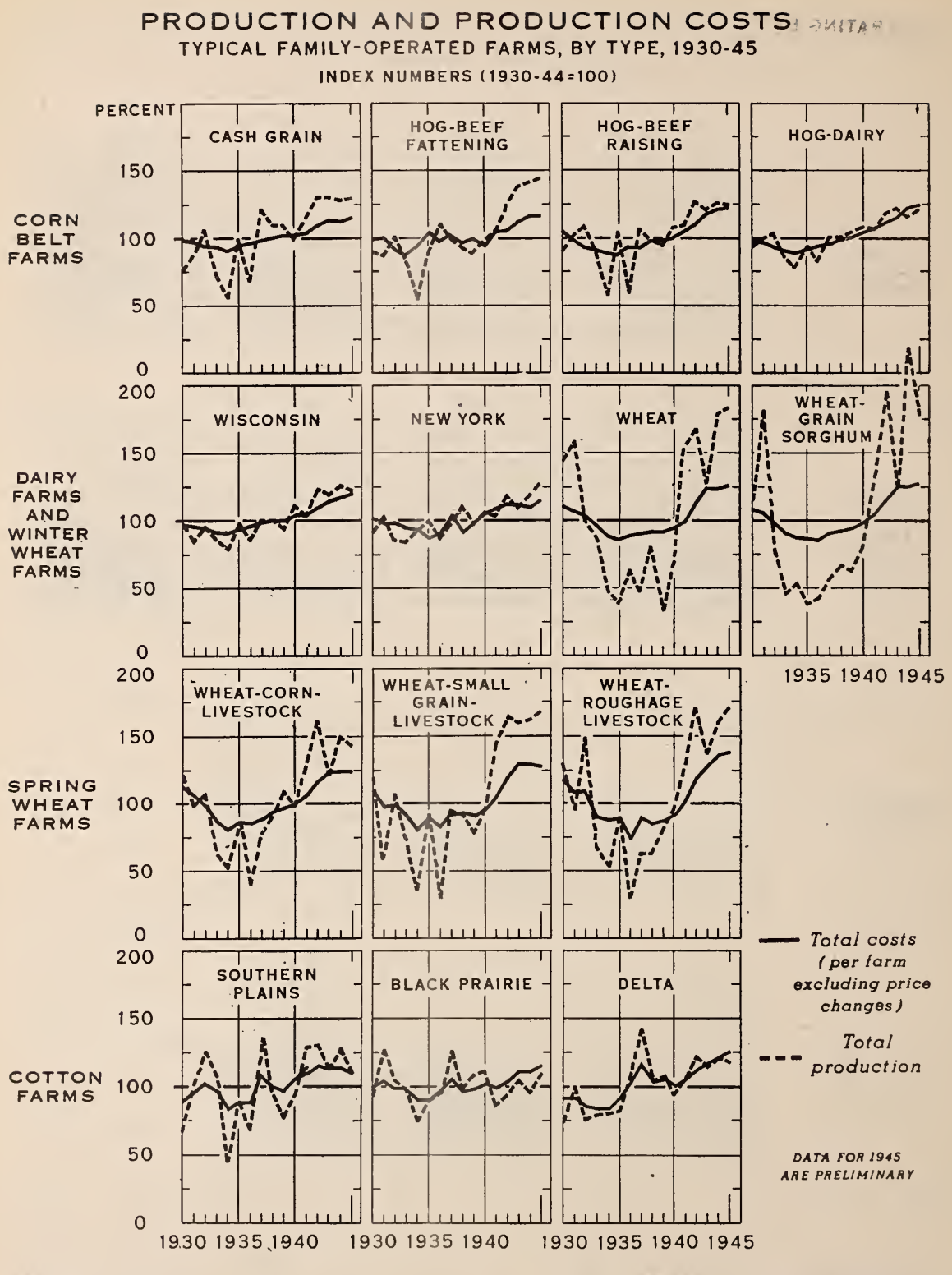

Figure 4.- Operators of typical farms have increased their production 30 to 50 percent during the last 16 years. Total cost per farm has also increased but not to the same extent as production. Farmers, in general, are becoming more efficient producers. Many farm costs continue even though production is reduced.

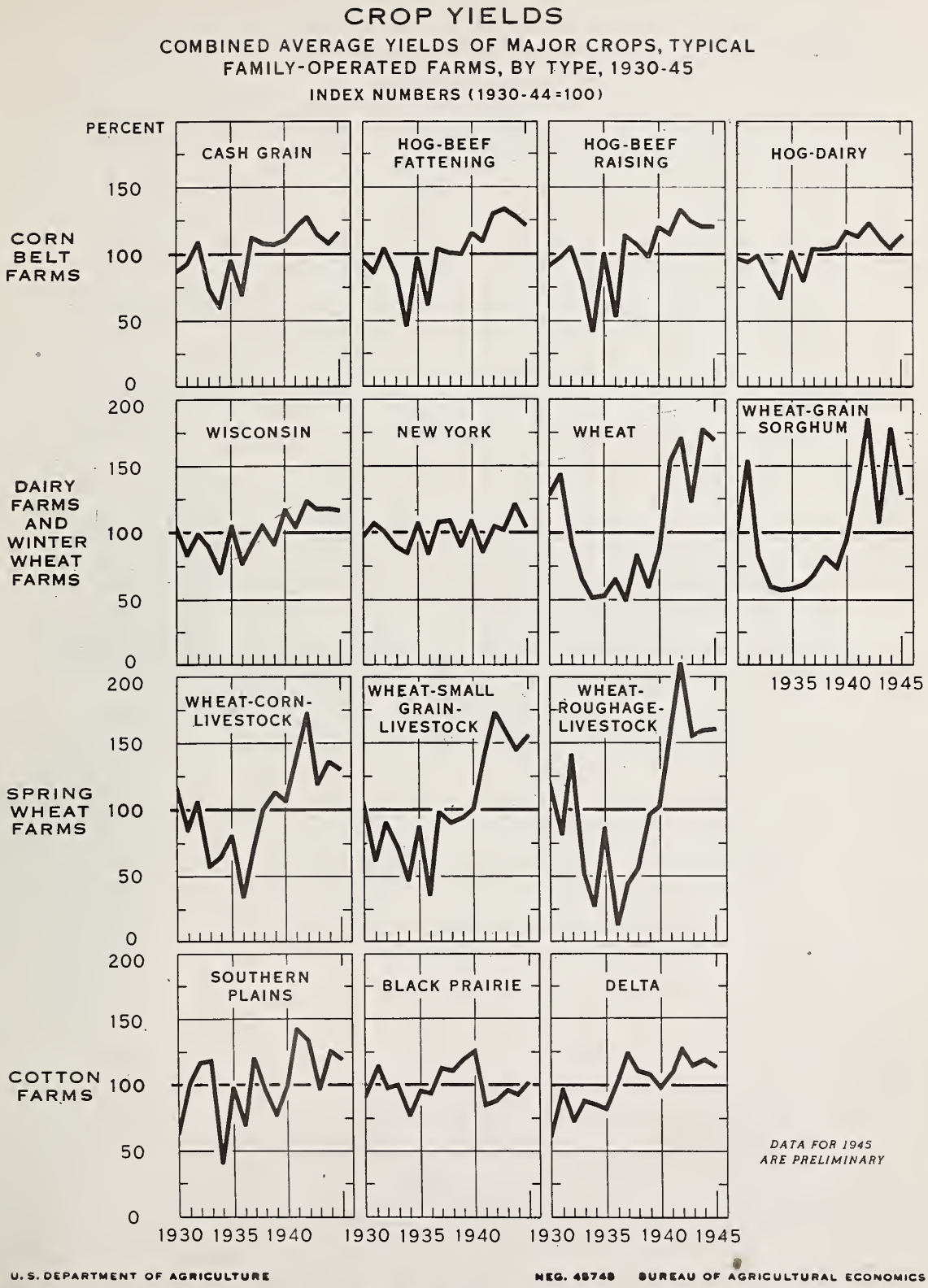

Figure 5.- Crop yields have improved substantially and have contributed materially to the increase in total production and the output per worker. Improved varieties, increased use of fertilizer and lime, land selections for important crops, improved production practices, soil conservation and weather have all played an important part. Yields are highly variable in some areas and relatively stable in others. They are particularly unpredictable throughout the semi-arid Great Plains region.

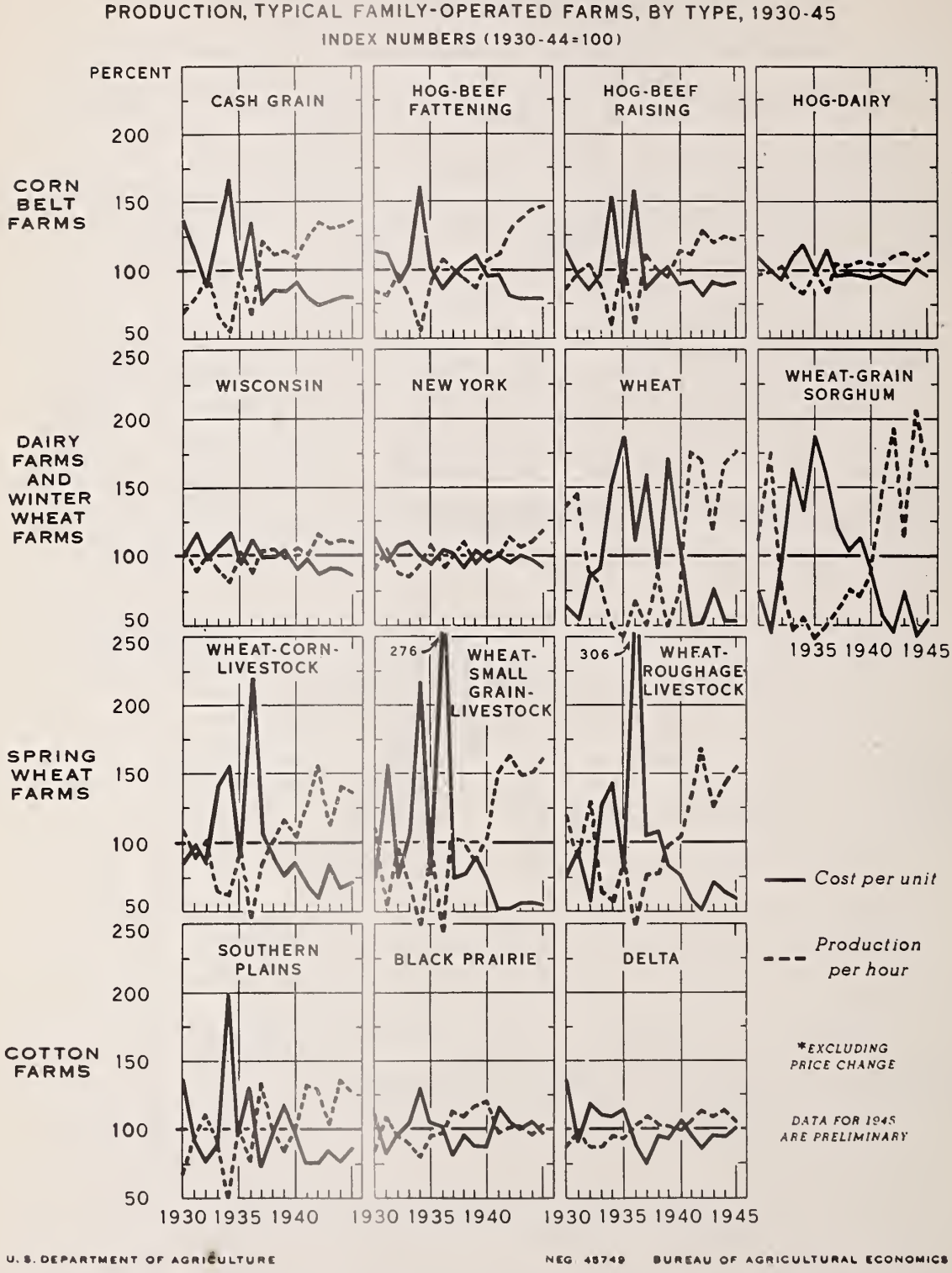

Figure 6.- Real gains have been made in production efficiency during the past decade. Labor productivity has increased generally and unit production costs have been pushed steadily downward. But these gains have not been shared uniformly by families on all types of farms. Increased efficiency is essential to improvement in the material standard of farm living.

Table 4.- Total costs (excluding price change) per unit of production and production per hour of man labor, typical family operated farms, by type, 1930-45

Index numbers (1930-44 = 100)

Calendar year	Dairy farms		Corn Belt farms				Spring wheat farms (Northern Plains)			Winter wheat farms (Southern Plains)		Cotton farms		
	Central New York	Southern Wisconsin	Cash grain	Hog-beef fattening	Hog-beef raising	Hog-dairy	Wheat-corn-livestock	Wheat-small grain livestock	Wheat-roughage livestock	Wheat	Wheat-grain sorghum	Southern Plains	Black Prairie	Delta of Mississippi
	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent
	Total costs (excluding price change) per unit of production													
1930	111	101	136	113	113	109	84	73	74	63	74	137	110	135
1931	95	117	111	111	95	100	98	156	96	53	45	92	82	89
1932	107	97	89	90	84	92	84	73	57	85	99	75	96	118
1933	109	107	129	105	96	108	138	104	127	91	163	87	103	110
1934	100	116	166	160	152	118	153	214	142	151	133	198	129	108
1935	93	94	91	100	83	98	90	75	82	187	186	94	103	114
1936	104	111	134	86	157	116	218	276	306	112	156	130	101	88
1937	101	98	75	96	85	95	107	73	105	158	121	72	81	74
1938	90	98	84	103	95	97	89	77	107	92	103	96	95	95
1939	103	104	84	108	101	95	75	88	83	170	113	116	87	93
1940	97	90	91	94	88	93	86	74	77	108	91	96	87	107
1941	100	98	80	96	91	97	68	51	60	50	57	74	115	95
1942	94	86	75	82	81	91	59	52	51	52	44	74	105	85
1943	100	92	77	78	91	90	84	57	70	75	74	84	100	95
1944	96	91	78	78	88	101	67	57	63	53	41	75	106	94
1945 1/	91	86	79	78	90	97	70	53	59	53	53	85	97	101
	Production per hour of man labor													
1930	90	103	69	84	86	96	109	108	118	137	111	67	83	87
1931	105	88	80	82	98	99	89	58	88	146	175	94	108	99
1932	87	100	96	97	104	103	101	95	129	88	77	110	94	86
1933	85	89	65	80	88	87	63	70	63	78	46	91	89	86
1934	94	81	55	54	59	82	60	40	57	49	55	50	79	95
1935	108	103	97	90	106	98	93	95	85	42	40	100	95	93
1936	92	87	67	107	60	84	46	34	40	68	50	77	97	101
1937	101	103	121	100	110	105	84	102	76	50	62	132	113	108
1938	109	105	111	92	100	103	100	100	77	87	75	100	109	103
1939	93	98	113	86	94	106	116	86	97	49	70	83	117	101
1940	104	107	108	107	113	105	104	104	103	75	86	99	120	99
1941	101	101	123	111	111	103	128	150	134	175	145	131	96	106
1942	114	116	134	129	129	111	155	162	167	170	191	128	101	113
1943	106	108	130	137	119	112	111	149	124	119	113	104	102	109
1944	111	111	131	144	123	106	141	151	142	167	204	134	97	114
1945 1/	118	108	135	146	122	112	135	162	155	176	164	126	103	105

1/ Preliminary.

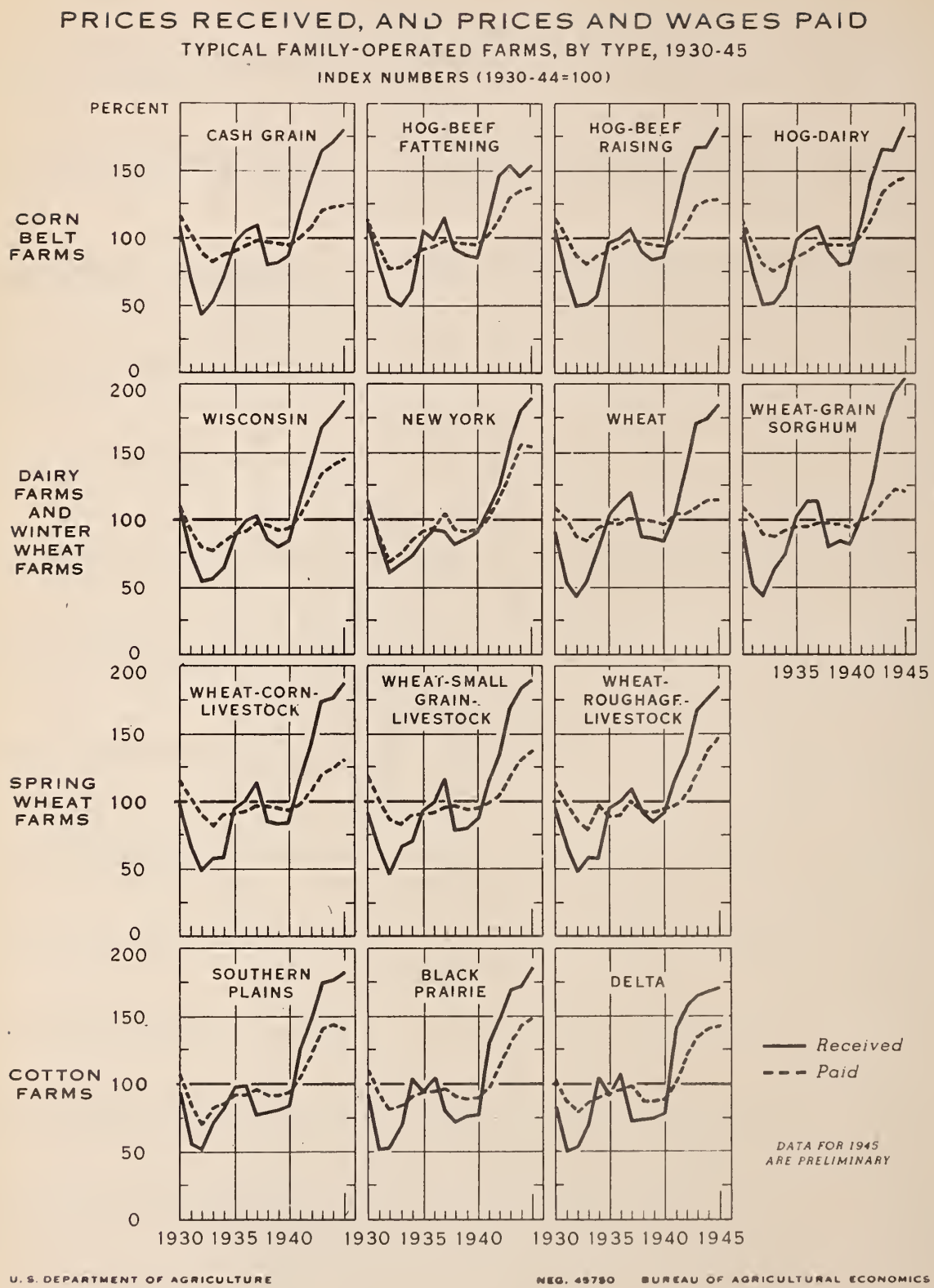

Figure 7.- Farm-product prices are highly responsive to changes in general economic conditions. Prices paid by farmers, on the other hand, are much more stable even when wages paid hired labor are included. Comparicons of index numbers of prices received and paid alone may be misleading for they make no allowance for changes in quantities bought or sold.

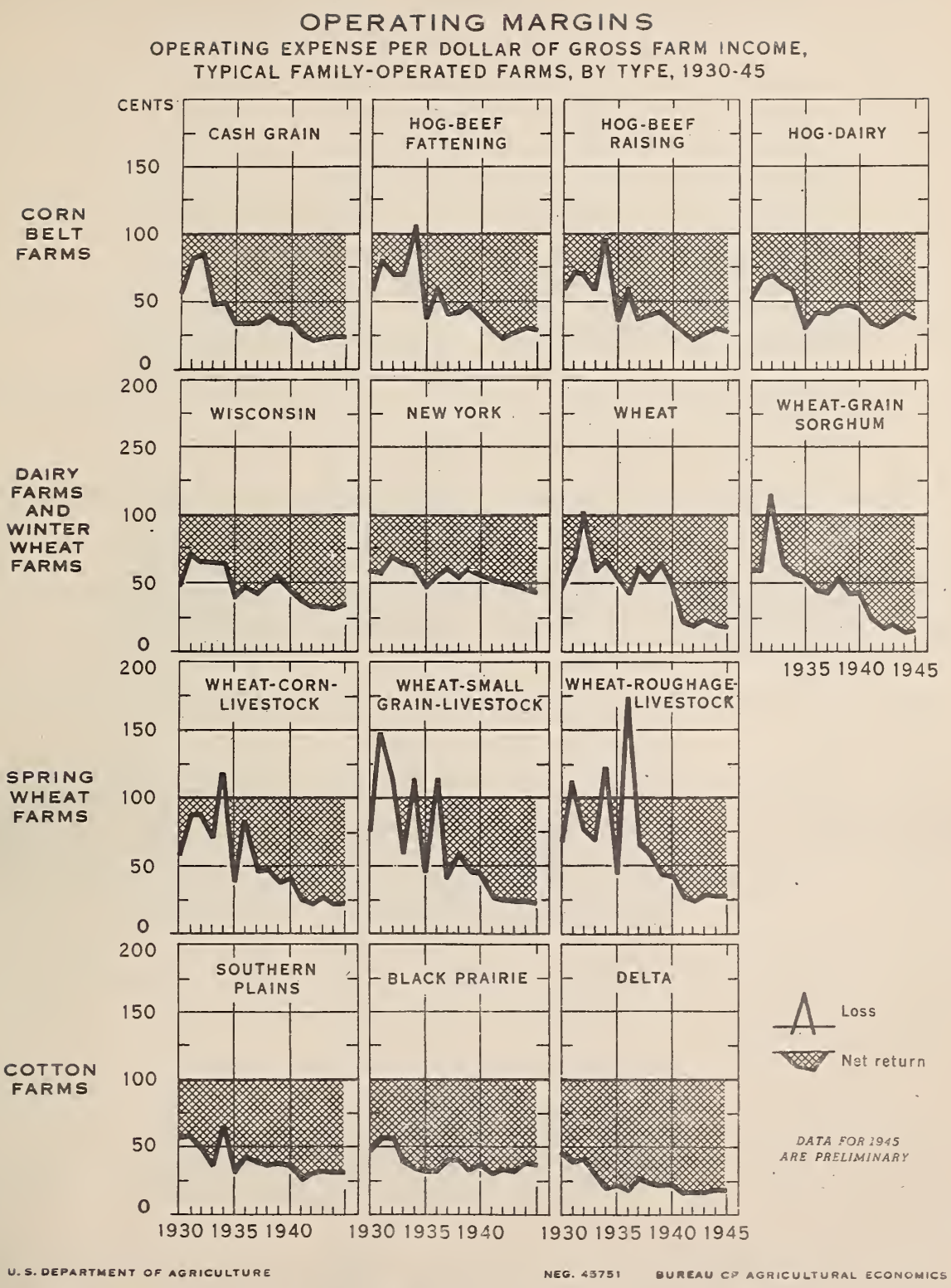

Figure 8.- Low production and low prices for farm products both reduce the normal margin of return per unit above out-of-pocket costs as total dollar operating expenses do not vary much from year to year. The shaded area is the part of each dollar received by the operator that is left for him to pay rent, interest, debts, and to maintain and educate his family.

Table 5.- Total production and operating expense per dollar of gross farm income, typical family operated farms, by type, 1930-45

Calendar year	Dairy farms		Corn Belt farms				Spring wheat farms (Northern Plains)			Winter wheat farms (Southern Plains)		Cotton farms		
	Central New York	Southern Wisconsin	Cash grain	Hog-beef fattening	Hog-beef raising	Hog-dairy	Wheat-corn-livestock	Wheat-small grain-livestock	Wheat-roughage livestock	Wheat	Wheat-grain sorghum	Southern Plains	Black Prairie	Delta of Mississippi
	Total production Index numbers (1930-44 = 100)													
	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent
1930	91	98	75	89	90	93	121	118	128	143	115	67	94	72
1931	102	83	88	86	102	98	98	58	95	156	161	100	126	99
1932	85	96	105	101	108	102	107	106	148	99	78	124	104	75
1933	83	86	71	85	92	86	62	74	66	87	45	106	98	78
1934	92	79	95	54	59	77	52	37	52	49	53	44	74	79
1935	99	98	98	89	103	94	86	91	88	39	37	89	89	82
1936	87	85	67	110	60	82	40	30	30	63	42	68	95	109
1937	99	100	121	99	107	100	76	95	62	47	57	135	124	142
1938	110	100	109	93	98	100	92	91	62	79	67	96	98	103
1939	97	94	109	88	94	104	109	77	82	43	62	77	108	107
1940	106	111	100	98	107	107	98	95	95	70	80	96	111	93
1941	103	103	114	105	108	105	127	144	125	151	136	128	85	105
1942	118	123	130	124	127	117	162	164	171	166	195	130	94	122
1943	109	119	130	138	120	121	121	159	136	127	125	113	104	114
1944	119	125	128	141	125	114	149	161	160	179	227	127	96	120
1945 1/	127	121	129	144	124	120	143	168	171	183	178	109	108	117
	Operating expense per dollar of gross farm income													
	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars
1930	.58	.48	.56	.57	.60	.52	.58	.75	.69	.48	.59	.56	.48	.46
1931	.55	.71	.82	.80	.74	.66	.89	1.47	1.12	.69	.59	.57	.55	.39
1932	.69	.65	.85	.70	.71	.70	.89	1.14	.78	1.02	1.16	.48	.55	.40
1933	.63	.64	.48	.70	.59	.63	.72	.59	.69	.59	.65	.37	.39	.30
1934	.61	.63	.49	1.06	.97	.59	1.18	1.11	1.22	.67	.56	.66	.33	.20
1935	.49	.40	.33	.39	.35	.31	.39	.45	.43	.51	.53	.33	.32	.21
1936	.55	.48	.34	.60	.60	.42	.82	1.14	1.74	.43	.45	.43	.32	.19
1937	.61	.44	.34	.42	.38	.41	.47	.40	.65	.62	.44	.38	.40	.27
1938	.53	.49	.40	.44	.41	.46	.48	.56	.57	.52	.53	.37	.40	.24
1939	.60	.54	.35	.48	.43	.48	.38	.47	.45	.64	.43	.38	.34	.22
1940	.55	.46	.34	.39	.35	.45	.41	.45	.42	.50	.44	.37	.36	.21
1941	.52	.38	.25	.30	.28	.35	.26	.28	.27	.23	.25	.27	.30	.15
1942	.48	.33	.21	.23	.23	.31	.21	.25	.24	.19	.18	.30	.33	.16
1943	.48	.34	.22	.29	.28	.35	.28	.24	.29	.23	.22	.32	.32	.16
1944	.46	.33	.24	.31	.31	.41	.23	.24	.28	.20	.15	.31	.38	.18
1945 1/	.44	.35	.23	.30	.28	.37	.23	.23	.28	.17	.17	.31	.36	.18

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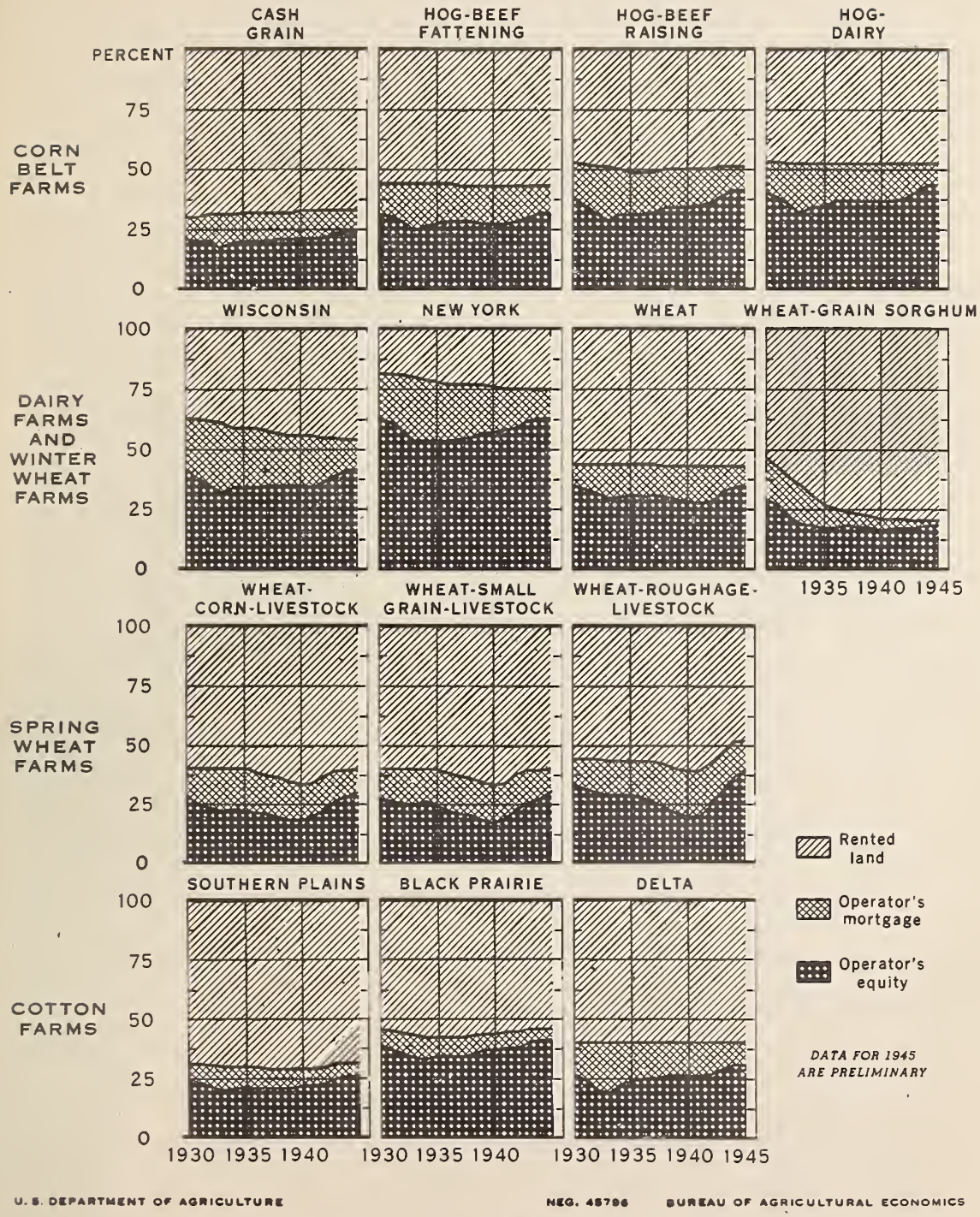
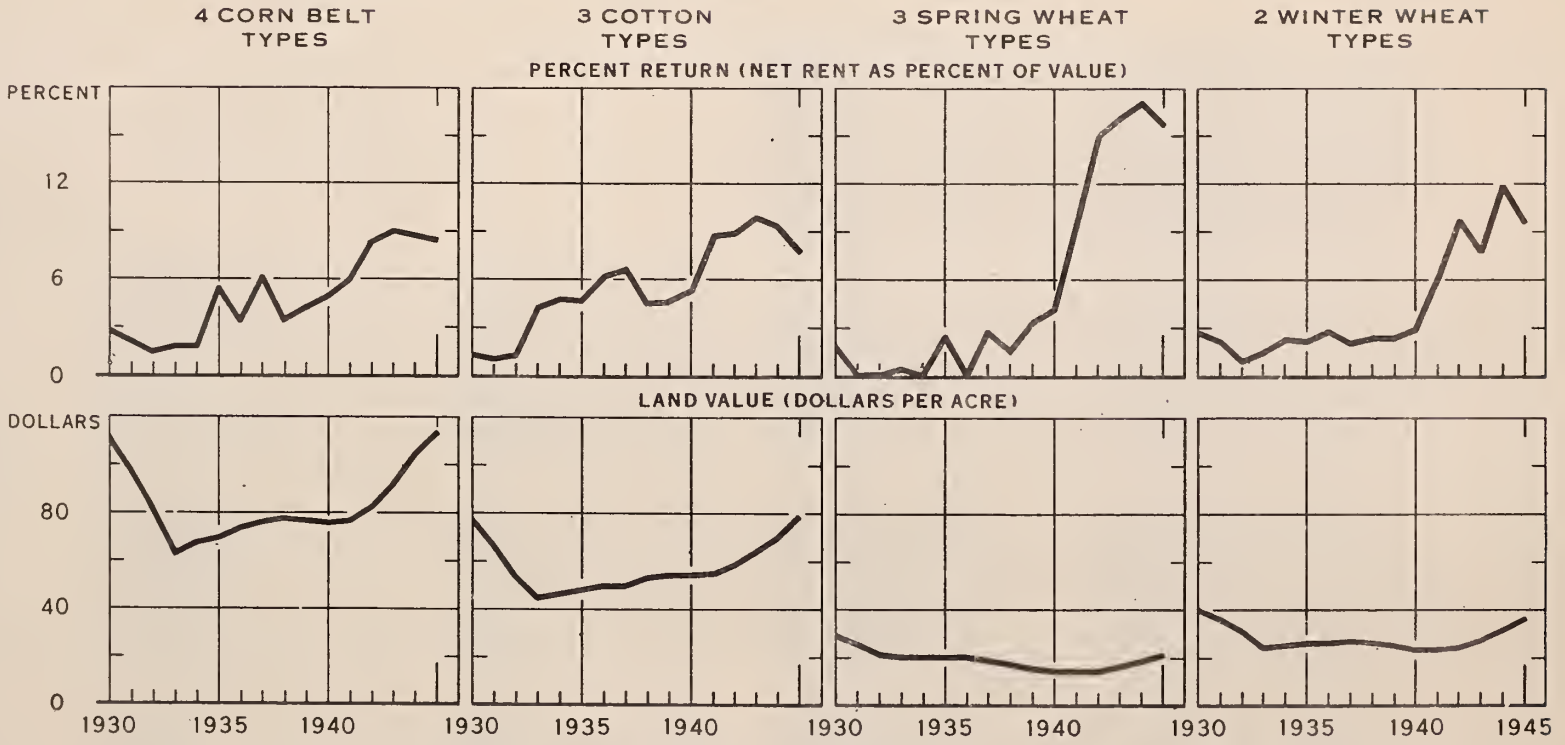


Figure 9.- If debt free owner-operatorship is their goal, operators of these 14 types of farms have made little progress toward it during the last 16 years. Some operators prefer renting to owning, for in this way they can use more land, put more money into livestock and machinery, and utilize their labor and machinery more effectively.

NET RENT AND LAND VALUES

NET RENT AS PERCENT OF CURRENT VALUE OF LAND AND BUILDINGS AND ESTIMATED VALUE PER ACRE OF FARM REAL ESTATE, TYPICAL FAMILY-OPERATED FARMS, BY TYPE, 1930-45



TYPE OF FARM	ESTIMATED VALUE OF LAND AND BUILDINGS PER ACRE (DOLLARS)				VALUE PER ACRE BASED ON CAPITALIZED NET RENT* (DOLLARS)			
	1933	1937	1940	1945	1935-39	1937-41	1930-45	1942-45
4 CORN BELT TYPES	$63	$76	$76	$114	$78	$88	$97	$194
3 COTTON TYPES	44	50	54	79	63	73	74	140
3 SPRING WHEAT TYPES	20	19	14	21	9	16	23	69
2 WINTER WHEAT TYPES	24	27	23	36	13	17	27	63

*NET RENT PER ACRE (GROSS RENTAL VALUE LESS TAXES AND BUILDING DEPRECIATION) CAPITALIZED AT CURRENT MORTGAGE INTEREST RATE

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Figure 10.- Land values usually lag two or three years behind net farm rentals. Prices of farm real estate rose substantially during the war but not nearly so fast as rental values. Returns to investment in farm land have been at a very attractive level during the past few years.

LOCATION AND GENERAL CHARACTERISTICS OF TYPICAL FAMILY-OPERATED FARMS

The brief discussion regarding each of the typical farms in this section is intended only to give a minimum of detail on the general location and characteristics of the farm. It is confined chiefly to a description of the size of farm, the cropping systems, livestock enterprises, use of mechanical equipment and power, and the general farm situation, with a minimum of analysis. The data presented in the tables and figures give some of the basic and general information on farm organization, production, costs, and income for the 16-year period (1930-45) and are intended to supply ready information to those who are interested in agriculture and agricultural problems. Many of the relationships and trends brought out in the data will be readily understood by those who are familiar with the typical farms in the various areas.

Intensive analyses of these data are planned for subsequent reports.

Location and general characteristics of typical family-operated dairy farms, central New York

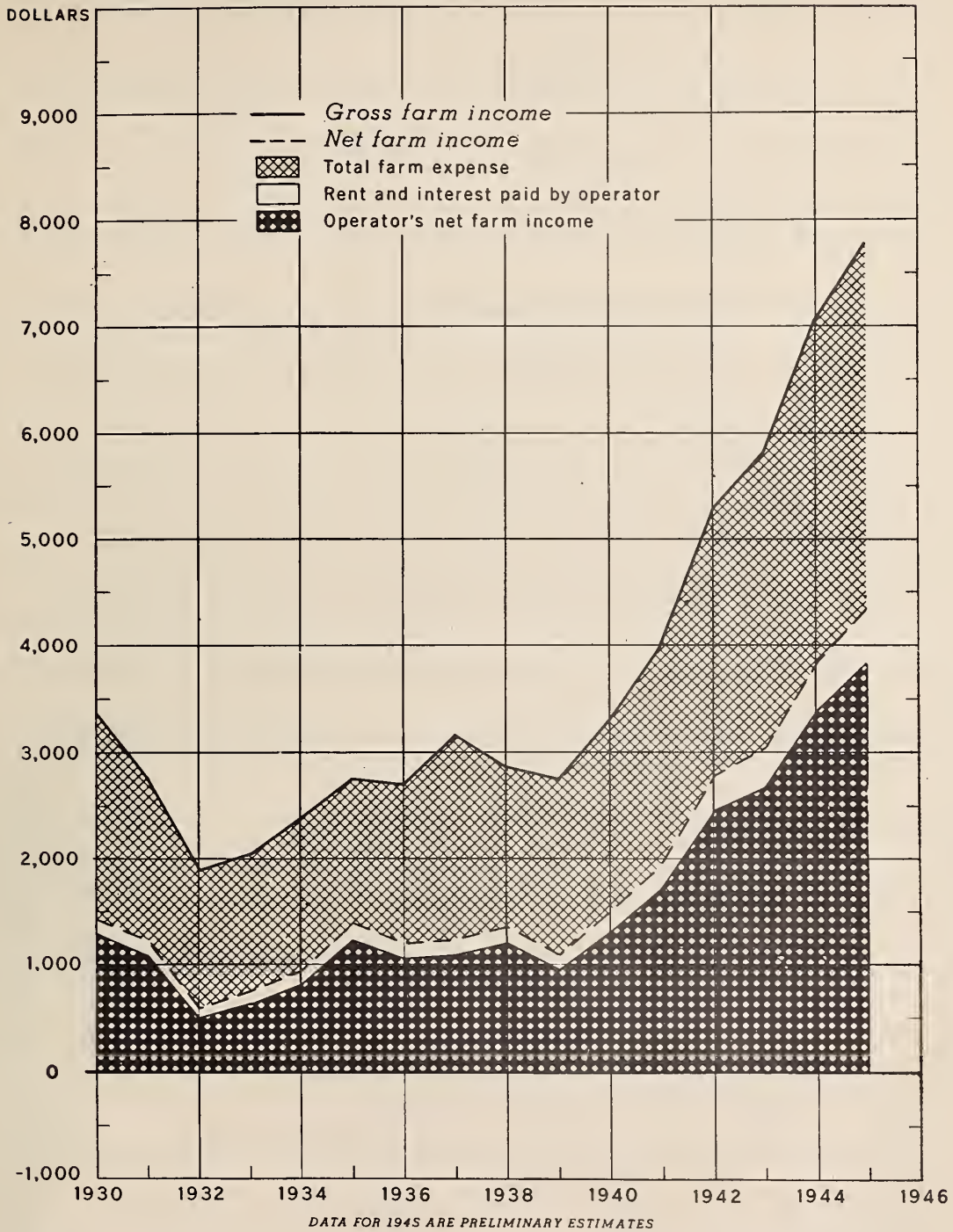
The dairy area of central New York is comprised of these farms which resemble a patch-work quilt along the valleys and slopes of the northeastern Appalachian Plateau with its broad, rolling-topped hills with steep sides and numerous small valleys (fig. 1). The soils are light-colored silts; some are shallow and some have compact subsoils. The farms average 140 acres, of which less than 40 percent is cropland. Nearly 80 percent of the cropland is devoted to the production of hay and silage for the 25 dairy animals that are normally kept; 17 of these animals are usually cows each producing a little less than 6,000 pounds of milk annually. Although these farmers produce about all the necessary roughage for their livestock, they buy practically all of the concentrate feeds. About 50 percent of the total cash expenditures is for the purchase of feeds.

Approximately 85 percent of the total income on these farms is from the dairy enterprise, of which about 70 percent is from the sale of milk which is marketed as fluid milk for retail trade in the Eastern market-milk shed. A farm poultry flock of slightly over 100 layers is the supplementary enterprise on this farm and accounts for about 10 percent of the gross income. The remainder of the income is obtained from the sale of some vegetables and fruit.

In 1930-33 operators of these farms milked about 17 cows obtaining a total milk production of about 95,500 pounds. During the depression, with its accompanying low prices for milk, these operators reduced the number of cows milked by about 11 percent. With the onslaught of the war and the patriotic cry for increased milk production and the accompanying higher prices for farm products these operators not only increased the number of cows milked by about 28 percent, compared with prewar days, but also fed and selected for higher production. The total production in 1941-45 was 118,400 pounds—23 percent above the prewar 1935-39 production. Production per cow was increased during this period by 6 percent.

Dairy farming, unlike grain farming, is a business that cannot be changed and shifted quickly to meet changed conditions. Considerable year-round labor is required and changes in labor requirements usually come slowly. About 5,000 hours of labor are used each year on each of these farms; the family labor is fully utilized all the year and accounts for about 85 percent of the work. Production per hour of man labor in 1940-44 was 16 percent above that in 1930-34. Much of the increase was due to higher crop production mostly because of higher yields. Crop production in 1940-44 was almost 15 percent above that in 1930-34.

INCOME AND EXPENSE, TYPICAL FAMILY-OPERATED DAIRY FARMS, CENTRAL NEW YORK, 1930-45



DATA FOR 1945 ARE PRELIMINARY ESTIMATES

U.S. DEPARTMENT OF AGRICULTURE

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FIGURE 11

Table 6.- Land use, livestock numbers and distribution of income and expense, typical family operated dairy farms, central New York 1930-45

Item	Unit	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945 1/
Total land in farm	Acres	136	139	139	139	138	138	138	138	140	142	144	144	145	145	145	145
Proportion of farm land in:																	
Cropland harvested	Percent	38	38	37	38	38	38	38	38	39	39	38	38	39	37	37	38
Pasture and other land	do.	62	62	63	62	62	62	62	62	61	61	62	62	61	63	63	62
Crops harvested:																	
Grains	Acres	8.8	9.1	8.6	9.2	9.1	9.1	9.4	8.7	9.7	10.2	10.3	10.2	10.3	8.6	8.8	8.9
Hay	do.	35.4	37.0	35.8	35.8	34.7	34.9	35.2	35.9	36.7	36.4	35.3	36.0	36.8	36.5	36.0	36.9
Silage	do.	5.7	6.0	6.1	5.4	6.0	6.5	5.9	6.1	6.3	6.7	6.9	7.0	7.3	6.8	7.5	7.6
Other crops	do.	1.9	1.9	1.9	1.7	2.5	2.1	1.6	1.7	1.9	1.6	1.7	1.8	1.9	1.7	1.8	1.8
Crop yield (per harvested acre):																	
All crops (index 1930-44=100)	Percent	97	107	101	90	84	108	83	108	109	89	110	85	108	102	122	104
Livestock on farm January 1:																	
Dairy cows	Number	17.0	16.6	17.0	16.8	16.3	15.2	15.8	16.4	17.0	17.5	17.9	18.4	18.1	18.5	19.7	20.4
Stock animals	do.	7.9	7.8	7.9	7.9	7.7	7.1	7.4	7.7	7.9	8.2	8.4	8.2	8.2	8.3	9.2	9.1
Hogs, all ages	do.	3.0	2.5	2.5	2.4	1.6	1.7	2.9	3.4	3.8	4.0	2.2	2.0	1.9	2.5	4.1	2.1
Poultry	do.	101	98	98	99	100	95	97	106	101	114	106	106	112	127	130	118
Workstock	do.	2.9	2.7	2.6	2.6	2.5	2.5	2.5	2.6	2.5	2.5	2.4	2.4	2.4	2.4	2.3	2.2
Farms with tractors	Percent	21	22	22	22	22	23	24	25	28	30	32	34	36	39	40	42
Proportion of cash receipts from:																	
Cattle	Percent	17	15	16	14	14	11	12	12	14	13	12	12	11	9	9	10
Other livestock	do.	2	2	2	1	2	1	1	2	1	2	1	1	1	2	2	1
Milk	do.	67	69	67	67	70	71	70	70	69	68	72	71	72	68	69	66
Other livestock products	do.	9	9	10	9	8	11	9	10	11	10	9	9	10	12	13	14
Government payments	do.	—	—	—	0	0	0	0	1	1	1	1	1	1	1	1	1
Miscellaneous	do.	5	5	5	9	6	6	8	5	4	6	5	6	5	8	6	8
Proportion of cash expenditures for:																	
Feed	do.	50	46	49	55	55	51	49	53	37	41	45	46	50	52	50	49
Labor	do.	13	12	11	9	8	7	7	8	11	12	12	13	14	15	17	18
Power and machinery	do.	15	17	17	14	16	19	20	20	28	23	20	20	17	14	17	19
General farm	do.	16	18	16	16	15	17	18	14	18	18	17	15	13	13	11	9
Miscellaneous	do.	6	7	7	6	6	6	6	5	6	6	6	6	6	6	5	5

1/ Preliminary.

Table 7.- Investment, income and related factors, typical family operated dairy farms, central New York, 1930-45

Item	Unit	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945 1/
Total land in farm	Acres	136	139	139	139	138	138	138	138	140	142	144	144	145	145	145	145
Proportion rented	Percent	18	19	19	20	21	22	23	23	23	23	24	25	25	25	25	25
Cropland harvested	Acres	52	54	52	52	52	53	52	52	55	55	54	55	56	54	54	55
Total labor used	Hours	4,831	4,729	4,738	4,650	4,659	4,458	4,544	4,752	4,877	4,998	4,926	4,963	5,000	4,998	5,179	5,216
Labor hired	do.	697	605	617	544	546	428	498	672	783	891	881	918	955	953	1,134	1,171
Total investment	Dollars	11,287	10,263	9,015	7,647	7,695	8,345	8,651	8,873	9,207	9,341	9,643	9,629	10,647	12,542	13,189	14,598
Land and buildings	do.	6,528	6,255	5,838	5,004	4,968	5,106	5,244	5,244	5,460	5,538	5,616	5,616	5,760	6,525	6,670	7,250
Machinery and equipment	do.	1,008	982	914	824	785	768	765	787	931	1,039	1,073	1,108	1,220	1,283	1,322	1,477
Livestock	do.	2,924	2,104	1,598	1,304	1,319	1,365	1,960	2,050	2,191	2,164	2,067	2,233	2,635	3,707	3,998	4,058
Crops on hand	do.	827	922	665	515	623	1,106	682	792	625	600	887	672	1,032	1,027	1,199	1,813
Cash receipts	do.	3,152	2,266	1,667	1,807	2,029	2,059	2,367	2,504	2,360	2,505	2,772	3,517	4,192	5,200	6,139	6,947
Cash expenditures	do.	1,933	1,473	1,188	1,165	1,375	1,301	1,475	2,036	1,650	1,693	1,819	2,133	2,539	2,782	3,329	3,566
Net cash farm income	do.	1,219	793	479	642	654	758	892	468	710	812	953	1,384	1,653	2,418	2,810	3,381
Value of perquisites	do.	510	418	342	353	368	408	448	454	433	431	410	475	566	486	775	838
Net change in inventory	do.	-310	19	-224	-253	-95	222	-136	323	198	-142	117	49	540	110	219	105
Net farm income	do.	1,419	1,230	597	742	927	1,388	1,204	1,245	1,341	1,101	1,480	1,908	2,759	3,014	3,804	4,324
Rent and interest paid by operator	Dollars	139	138	105	114	126	162	145	146	157	134	171	215	313	361	435	501
Operator's net farm income	do.	1,280	1,092	492	628	801	1,226	1,059	1,099	1,184	967	1,309	1,693	2,446	2,653	3,369	3,823
Operator's net cash farm income	do.	1,068	661	363	514	526	621	746	357	580	674	800	1,182	1,412	2,092	2,430	2,929
Allocation of net farm income																	
Land and buildings (net rental)	Dollars	379	369	344	295	283	286	278	273	273	271	275	270	276	313	320	348
Working assets (current interest rate)	do.	286	240	191	159	154	191	201	210	214	217	221	233	269	337	352	397
Total investment	do.	665	609	535	454	447	477	479	483	487	488	496	503	545	650	672	745
Operator and family labor	do.	754	621	62	288	480	911	725	762	854	613	984	1,405	2,214	2,364	3,132	3,579
Operator's labor	do.	147	116	-297	-22	142	575	366	345	446	216	588	913	1,597	1,616	2,288	2,677
All labor	do.	997	797	197	386	587	999	833	928	1,040	819	1,195	1,678	2,570	2,795	3,710	4,217
Percentage return to investment	Percent	5.9	5.9	5.9	5.9	5.8	5.7	5.5	5.4	5.3	5.2	5.1	5.2	5.1	5.2	5.1	5.1
Return per hour to all labor used	Dollars	.21	.17	.04	.08	.13	.22	.18	.20	.21	.16	.24	.34	.51	.56	.72	.81
Index numbers (1930-44 = 100)																	
Gross farm income	Percent	97	80	55	58	68	79	77	91	83	79	95	115	152	168	203	224
Operator's net farm income	do.	90	77	35	44	57	86	75	78	83	68	92	119	172	187	237	269
Total production	do.	91	102	85	83	92	99	87	99	110	97	106	103	118	109	119	127
Production per hour of man labor	do.	90	105	87	85	94	108	92	101	109	93	104	101	114	106	111	116
Operating expense per unit of production	do.	117	84	78	81	85	79	94	104	83	94	94	106	110	137	154	151
Total cost per unit of production	do.	127	95	86	82	82	81	94	96	84	92	88	101	109	135	148	146
Total input per unit of production	do.	111	95	107	109	100	93	104	101	90	103	97	100	94	100	96	91
Power and machinery used (quantity)	do.	105	103	99	93	86	83	82	82	93	106	109	110	115	117	117	126
Prices received for products sold	do.	116	85	61	67	73	84	93	92	82	86	91	107	125	159	181	190
Prices paid including wages to hired labor	do.	109	88	69	75	85	92	94	104	93	91	93	101	116	134	156	154

1/ Preliminary.

NOTE: See text for explanation of terms.

Location and general characteristics of typical family-operated dairy farms, southern Wisconsin

These farms practically blanket the Dubuque Hills and Silty Drift Lands of southern Wisconsin. They average about 120 acres and, in general, have remained unchanged in size during the last 16 years. About 60 percent of the farm land is cultivated; the remainder is in fairly productive pasture.

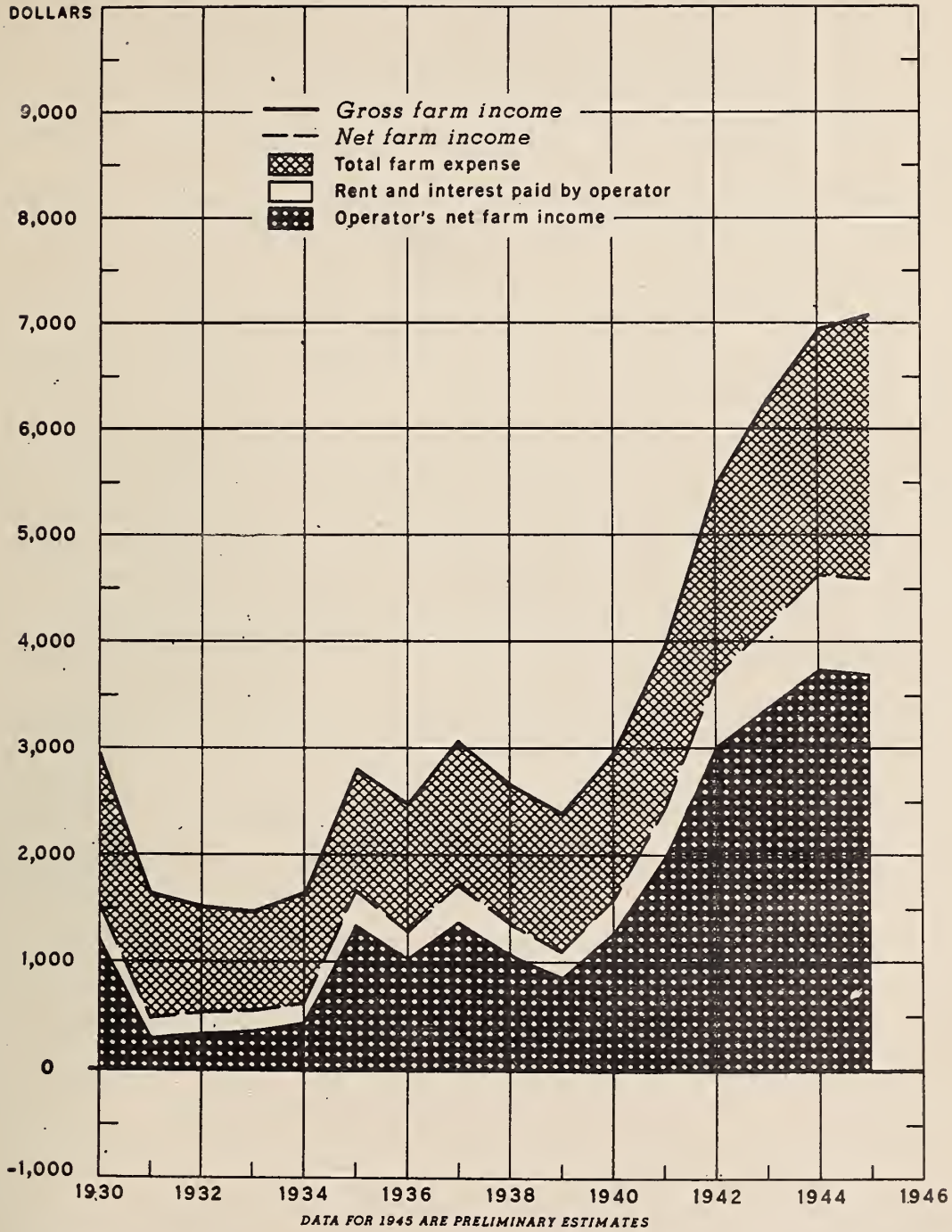
Operators of these farms have a fairly well-balanced operating unit. Each produces (with the exception of some commercial mixed protein feeds) about all the concentrate feeds and roughages necessary for the maintenance and production of livestock, and utilizes available family labor throughout the year. The operator and his family normally supply more than 80 percent of the labor requirements. Until recently, when wartime conditions called for increased production, less than 4 percent of total cash expenditures went for hired labor. Increased production on dairy farms, of course, increases the labor load and, as the family's time was already well utilized, labor had to be hired. Expenditures for labor during 1941-45 averaged 16 percent of total cash expenditures as compared with a little over 3 percent for prewar.

The livestock enterprises on these farms consist of a dairy herd of about 15 fairly high producing milk cows and 7 or 8 young animals for replacements; a hog enterprise netting about 60,000 pounds of pork each year; and a poultry enterprise of approximately 120 layers.

Corn for grain and silage, small grains (mostly oats), and hay each occupy about one-third of the cultivated acreage. Pasture (mostly blue-grass) occupies about 40 acres.

Crop production has been increased materially in recent years on these farms. There has been little change in acreage of crops but yields have risen. Crop yields on these farms in 1940-44 were 30 percent above those in 1930-34. This increase in feed supplies permitted these farmers to increase the production of milk, pork, and poultry. In 1940-44 milk production was 23 percent above 1930-34; pork production was 41 percent, and poultry production was 56 percent above 1930-34. About 65 percent of the total receipts on these farms is from the dairy enterprise, 20 percent from the hogs, and 8 percent from poultry.

INCOME AND EXPENSE, TYPICAL FAMILY-OPERATED DAIRY FARMS, SOUTHERN WISCONSIN, 1930-45



DATA FOR 1945 ARE PRELIMINARY ESTIMATES

U.S. DEPARTMENT OF AGRICULTURE NEG. 45675 BUREAU OF AGRICULTURAL ECONOMICS

FIGURE 12

Table 8.- Land use, livestock numbers and distribution of income and expense, typical family operated dairy farms, southern Wisconsin 1930-45

Item	Unit	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945 1/
Total land in farm	Acres	120	120	120	120	120	120	120	120	120	120	121	121	122	122	122	122
Proportion of farm land in:																	
Cropland harvested	Percent	56	56	56	56	55	58	58	59	59	57	57	57	58	59	61	61
Idle, and failure	do.	2	3	3	3	5	2	2	0	1	3	3	3	2	1	1	1
Pasture and other land	do.	42	41	41	41	40	40	40	41	40	40	40	40	40	40	38	38
Crops harvested:																	
Corn, grain	Acres	10.0	11.2	12.5	13.2	13.5	13.1	9.3	13.4	14.2	12.6	12.4	12.5	14.0	15.4	15.7	15.9
Corn, silage	do.	10.0	9.6	9.5	8.7	9.4	8.9	11.8	10.8	8.4	8.2	8.4	8.0	8.1	8.4	10.5	10.6
Small grain	do.	24.4	24.8	26.4	25.8	23.2	26.5	25.3	27.3	27.4	24.5	23.8	22.6	23.9	22.7	23.0	24.9
Hay	do.	21.1	19.9	17.5	18.2	17.8	19.2	21.6	17.9	19.0	21.4	22.6	23.4	22.5	22.9	23.2	21.8
Crop yield (per harvested acre):																	
Corn	Bushels	37.1	30.0	40.0	38.3	33.6	37.2	23.3	34.6	41.8	39.7	44.4	43.0	48.0	48.7	49.7	46.8
All crops (index 1930-44=100)	Percent	105	82	99	90	70	106	77	92	106	91	118	104	124	118	118	117
Livestock on farm January 1:																	
Dairy cows	Number	13.6	14.0	14.5	14.8	15.1	14.7	14.8	14.7	14.7	14.6	15.1	15.4	15.9	16.9	16.9	17.6
Stock animals	do.	7.3	7.6	7.6	7.5	7.6	6.9	7.5	7.9	7.8	8.2	7.9	9.0	9.5	10.0	10.8	10.4
Hogs, all ages	do.	14.0	15.0	14.5	15.4	13.9	10.8	13.7	12.9	13.2	15.5	16.8	17.8	21.0	23.1	24.6	19.4
Poultry	do.	110	110	105	104	110	107	113	121	108	111	117	114	129	147	157	133
Workstock	do.	3.5	3.4	3.3	3.3	3.3	3.3	3.3	3.3	3.2	3.2	3.2	3.1	3.1	3.0	2.9	2.7
Farms with tractors	Percent	46	48	48	48	49	52	56	60	64	68	70	72	75	76	76	78
Proportion of cash receipts from:																	
Hogs	Percent	17	18	14	14	13	18	21	24	19	18	14	15	21	21	19	16
Cattle	do.	14	15	15	12	9	12	10	12	13	15	14	13	14	13	12	11
Other livestock	do.	3	3	4	3	3	3	3	2	2	3	2	2	2	3	2	2
Milk	do.	49	51	57	57	56	53	49	50	47	45	52	51	47	47	52	52
Other livestock products	do.	6	6	7	6	7	9	7	7	8	6	6	6	8	7	8	8
Government payments	do.	—	—	—	0	6	2	3	2	3	6	5	4	3	2	1	1
Miscellaneous	do.	11	7	3	8	6	3	7	3	8	7	7	9	5	7	6	10
Proportion of cash expenditures for:																	
Feed	do.	8	7	6	8	11	11	10	10	7	9	9	9	11	12	10	10
Labor	do.	18	19	18	16	15	14	15	15	14	15	20	21	25	28	30	31
Power and machinery	do.	33	34	37	38	38	38	40	42	46	40	36	36	31	27	32	34
General farm	do.	30	28	27	25	24	25	25	23	24	26	24	24	22	20	17	15
Miscellaneous	do.	11	12	12	13	12	12	10	10	9	10	11	10	11	13	11	10

1/ Preliminary.

Table 9.-- Investment, income and related factors, typical family operated dairy farms, southern Wisconsin, 1930-45

Item	Unit	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945 1/
Total land in farm	Acres	120	120	120	120	120	120	120	120	120	120	121	121	122	122	122	122
Proportion rented	Percent	37	37	38	39	41	41	41	42	43	44	44	44	45	45	46	46
Cropland harvested	Acres	68	68	68	68	66	70	70	71	71	68	69	68	71	71	71	71
Total labor used	Hours	4,684	4,705	4,724	4,739	4,809	4,705	4,743	4,778	4,717	4,709	5,090	5,017	5,197	5,414	5,514	5,518
Labor hired	do.	920	916	915	922	963	939	981	992	950	954	1,299	1,252	1,338	1,465	1,565	1,569
Total investment	Dollars	17,121	15,177	12,624	10,861	11,019	12,052	12,317	13,325	13,478	13,170	13,183	12,915	14,681	16,778	18,613	20,311
Land and buildings	do.	12,240	10,800	9,360	8,040	8,160	8,400	8,520	9,000	9,120	9,000	9,075	8,470	9,516	10,248	11,224	12,078
Machinery and equipment	do.	1,087	1,051	966	875	835	831	856	948	1,123	1,228	1,216	1,228	1,348	1,394	1,418	1,582
Livestock	do.	2,290	1,706	1,163	910	920	1,050	1,890	1,823	1,935	1,897	1,900	2,036	2,785	3,547	3,770	3,771
Crops on hand	do.	1,504	1,620	1,135	1,036	1,104	1,771	1,051	1,554	1,300	1,045	992	1,181	1,232	1,589	2,201	2,880
Cash receipts	do.	2,518	1,729	1,166	1,293	1,527	1,951	2,489	2,482	2,221	2,185	2,313	3,339	4,314	5,740	6,021	6,241
Cash expenditures	do.	1,386	1,045	820	778	918	1,105	1,285	1,500	1,438	1,293	1,334	1,558	1,804	2,111	2,420	2,575
Net cash farm income	do.	1,132	684	346	515	609	846	1,204	982	783	892	979	1,781	2,510	3,629	3,601	3,666
Value of perquisites	do.	416	338	286	298	306	365	381	383	350	342	343	409	487	587	594	633
Net change in inventory	do.	-34	-540	-108	-274	-311	455	-305	348	224	-145	267	254	682	-66	426	291
Net farm income	do.	1,514	482	524	539	604	1,666	1,280	1,713	1,357	1,089	1,589	2,444	3,679	4,150	4,621	4,590
Rent and interest paid by operator	Dollars	320	198	198	182	174	324	261	327	290	231	318	446	667	761	883	910
Operator's net farm income	do.	1,194	284	326	357	430	1,342	1,019	1,386	1,067	858	1,271	1,998	3,012	3,389	3,738	3,680
Operator's net cash farm income	do.	815	428	145	303	396	597	907	714	552	647	711	1,383	1,972	2,891	2,833	2,869
Allocation of net farm income																	
Land and buildings (net rental)	Dollars	685	605	524	442	441	437	409	423	410	396	390	356	400	441	483	519
Working assets (current interest rate)	do.	337	298	222	186	177	215	220	238	240	234	218	244	279	346	384	428
Total investment	do.	1,022	903	746	628	618	652	629	661	650	630	608	600	679	787	867	947
Operator and family labor	do.	492	-421	-222	-89	-14	1,014	651	1,052	707	459	981	1,844	3,000	3,363	3,754	3,643
Operator's labor	do.	104	-725	-449	-285	-226	783	382	743	412	178	685	1,472	2,521	2,775	3,082	2,904
All labor	do.	747	-226	-78	35	124	1,169	839	1,267	907	652	1,250	2,176	3,448	3,964	4,486	4,451
Percentage return on investment	Percent	6.0	5.9	5.9	5.8	5.6	5.4	5.1	5.0	4.8	4.8	4.6	4.6	4.6	4.7	4.7	4.7
Return per hour to all labor used	Dollars	.16	-.05	-.02	.01	.03	.25	.18	.27	.19	.14	.25	.43	.66	.73	.81	.81
Index numbers (1930-44 = 100)																	
Gross farm income	Percent	92	51	47	46	51	87	77	95	83	74	92	123	171	195	216	220
Operator's net farm income	do.	83	20	22	25	30	93	70	96	74	59	88	138	208	235	259	255
Total production	do.	98	83	96	86	79	98	85	100	100	94	111	103	123	119	125	121
Production per hour of man labor	do.	103	88	100	89	81	103	87	103	105	98	107	101	116	108	111	108
Operating expense per unit of production	do.	108	103	76	81	97	84	103	98	94	99	89	105	105	126	132	145
Total cost per unit of production	do.	121	118	83	82	95	82	100	95	91	95	82	100	101	123	132	147
Total input per unit of production	do.	101	117	97	107	116	94	111	98	98	104	90	98	86	92	91	86
Power and machinery used (quantity)	do.	101	99	95	89	83	82	82	88	100	113	113	111	115	115	114	125
Prices received for products sold	do.	108	74	55	57	64	89	100	103	86	80	84	114	140	168	178	188
Prices paid including wages to hired labor	do.	111	92	80	77	83	90	92	98	96	93	94	102	117	134	141	145

1/ Preliminary.

NOTE: See text for explanation of terms.

Location and characteristics of typical family-operated cash-grain farms, Corn Belt

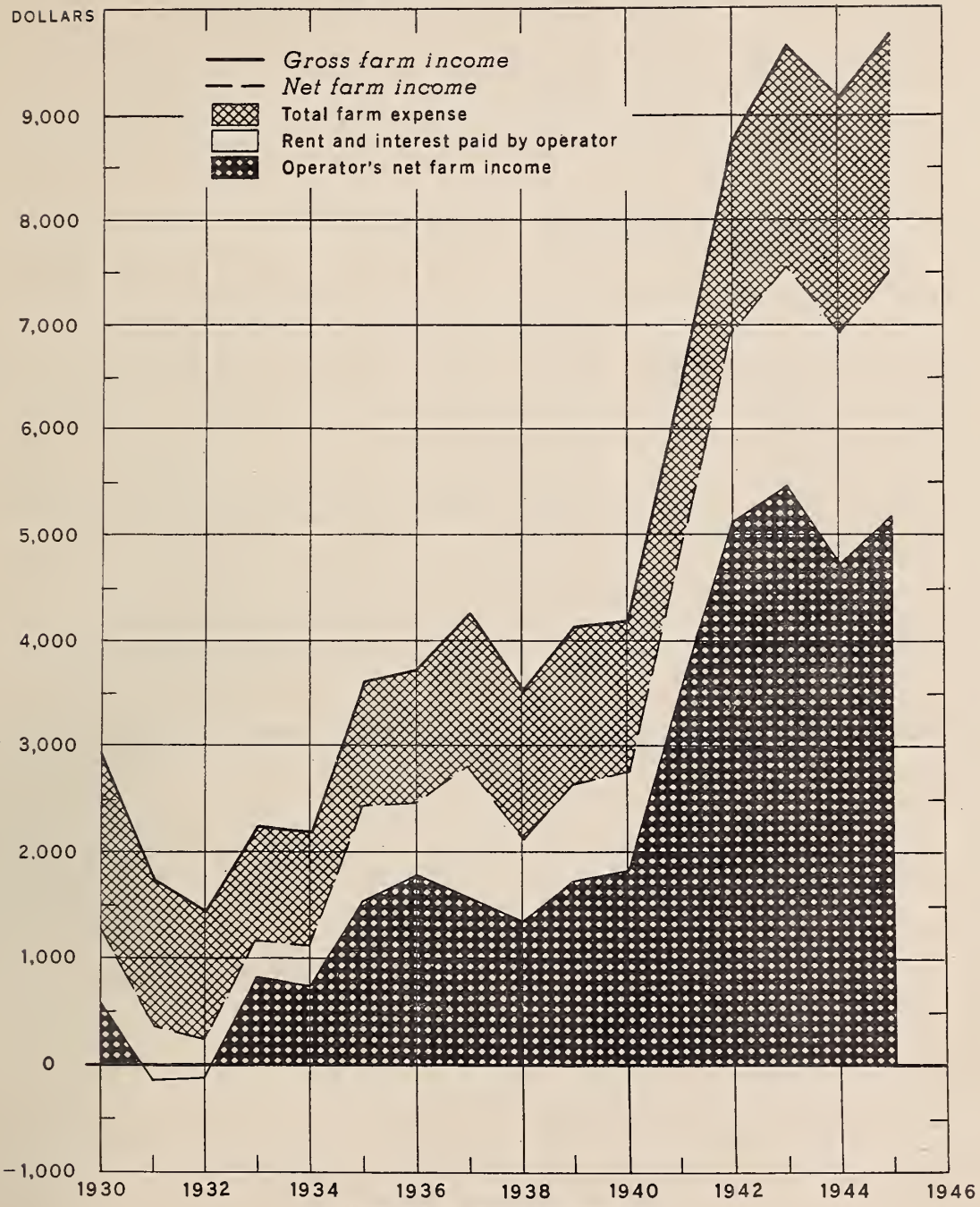
These farms are predominant in the deep, rich, black, productive prairie soils of east-central Illinois, north-central Iowa, and eastern Nebraska (fig. 1). They are among the larger and more productive farms in the Corn Belt, and offer considerable opportunity for the operators labor, management, and capital. The total investment per farm ranged from $20,000 in 1933 to $47,000 in 1945; more than 80 percent of this investment is in land and buildings. The land is comparatively level, is productive and easily worked, and presents no particular problem of soil erosion, particularly from the use of intertilled crops. A high proportion of the land is cropped and much of this is in intertilled crops.

The average size of farm in 1930 was 200 acres but was increased to 230 acres by 1944. During 1930-33 these farms produced about 85 acres of corn, 65 acres of oats, 5 acres of soybeans, and 10 acres of hay (mostly clover and timothy). The acreage of corn has remained about the same during the last 16 years but the acreage of oats has declined in favor of soybeans, and clover and timothy hay has declined in favor of a more productive hay (alfalfa). By 1942 the acreage of soybeans (the demand for which was increased during the war) had risen to 40 acres and now occupies as much acreage as oats. About 60 percent of the gross farm income on these farms is from the sale of crops.

Although operators of these farms sell considerable of their crops directly for cash, they also have substantial livestock enterprises which contribute materially to the income and utilize some family labor that would otherwise not be employed. They normally milk between 4 and 5 milk-and-beef cows, produce about 10,000 pounds of pork, and maintain a poultry flock of about 120 layers. Less than 15 percent of the total labor used on these farms is hired, mostly during the summer months.

Operators of these typical cash-grain farms have taken advantage of twentieth-century technological developments that have been adaptable to Corn Belt farming and are now making extensive use of row-crop tractors and attachments, corn pickers, combines, pick-up balers, hybrid seed corn, and improved varieties of other seeds. As a result, by 1940-44 they had increased the size of farm by 14 percent, increased the combined output of crops and livestock by 53 percent, and at the same time decreased the total hours of labor used by 11 percent compared with 1930-34. In 1940-44 the total production per hour of man labor was 72 percent above the 1930-34 average. Total costs (excluding price change) per unit of product was decreased by 36 percent during this period. Returns per hour to all labor was increased from 7 cents in 1930-34 to 82 cents in 1940-44.

INCOME AND EXPENSE, TYPICAL FAMILY-OPERATED CASH GRAIN FARMS, CORN BELT, 1930-45



DATA FOR 1945 ARE PRELIMINARY ESTIMATES

U.S. DEPARTMENT OF AGRICULTURE NEG. 45676 BUREAU OF AGRICULTURAL ECONOMICS

FIGURE 13

Table 10.- Land use, livestock numbers and distribution of income and expense, typical family operated cash grain farms, Corn Belt, 1930-45

Item	Unit	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945 1/
Total land in farm	Acres	200	202	202	203	204	208	209	211	214	217	220	222	223	228	230	230
Proportion of farm land in:																	
Cropland harvested	Percent	81	82	83	82	72	82	78	82	80	76	73	72	77	78	78	79
Idle and failure	do.	3	3	1	2	12	3	6	3	5	8	9	10	6	6	6	6
Pasture and other land	do.	16	15	16	16	16	15	16	15	15	16	18	18	17	16	16	15
Crops harvested																	
Corn	Acres	83.3	87.4	89.7	85.4	70.5	77.7	83.3	87.1	80.2	75.9	70.8	71.4	74.4	83.4	90.0	88.2
Small grain	do.	63.7	63.0	64.4	66.1	54.3	59.7	51.7	55.3	55.5	47.2	44.6	44.4	43.0	40.0	37.5	42.2
Soybeans	do.	5.2	5.0	4.6	5.0	10.2	19.8	17.8	20.6	21.1	27.7	29.8	29.3	39.6	40.4	39.6	38.4
Hay	do.	10.2	10.3	9.6	10.2	11.2	11.8	11.9	10.5	13.1	13.0	16.3	14.5	14.4	13.4	13.4	12.9
Crop yield (per harvested acre):																	
Corn	Bushels	29.5	34.8	42.1	31.8	21.6	39.4	21.6	46.0	45.5	50.1	42.0	52.4	59.1	52.9	50.0	51.3
Oats	do.	53.6	52.1	55.2	56.3	47.3	51.1	42.8	45.0	44.9	38.3	37.4	39.0	36.0	33.9	31.3	35.1
All crops (index 1930-44 = 100)	Percent	86	93	109	74	60	96	70	113	109	108	111	120	128	115	108	116
Livestock on farm January 1:																	
All cattle	Number	12.6	12.7	13.3	14.2	15.2	13.9	14.9	13.7	14.0	14.6	15.8	17.4	18.0	19.8	19.1	19.1
Milk cows	do.	4.0	4.0	4.2	4.4	4.7	4.6	4.4	4.3	4.3	4.3	4.9	5.3	5.5	6.1	5.9	5.9
Hogs, all ages	do.	28.7	28.3	31.0	35.6	35.0	21.9	24.0	25.1	26.3	28.7	30.2	27.6	32.9	40.9	45.4	31.1
Poultry	do.	122	122	117	118	123	117	117	114	108	109	110	116	121	134	143	127
Workstock	do.	5.6	5.3	5.0	4.7	4.4	3.0	2.6	2.2	2.1	2.0	2.0	1.9	1.9	1.8	1.8	1.7
Farms with tractors	Percent	53	53	47	47	50	58	68	78	84	87	89	92	94	95	95	96
Proportion of cash receipts from:																	
Corn	Percent	41	33	30	40	40	31	39	29	36	37	44	30	31	33	38	40
Soybeans	do.	3	3	3	1	6	10	7	11	9	13	9	15	18	17	18	18
Other crops	do.	15	15	18	21	4	8	12	15	11	10	9	12	8	8	6	6
Hogs	do.	21	25	22	19	19	20	19	23	21	15	13	17	21	21	20	16
Cattle	do.	7	8	10	6	9	6	6	7	7	6	7	8	5	7	6	7
Other livestock	do.	3	4	4	3	3	4	3	3	2	2	1	2	2	2	2	2
Livestock products	do.	10	12	13	10	12	12	8	10	9	7	8	9	9	9	9	10
Government payments	do.	--	--	--	0	7	9	6	2	5	10	9	7	6	3	1	1
Proportion of cash expenditures for:																	
Feed	do.	5	4	4	7	7	6	6	6	5	7	6	6	8	9	8	7
Labor	do.	15	15	15	14	9	10	8	8	8	7	6	7	9	16	14	14
Power and machinery	do.	35	36	36	36	43	44	48	51	50	42	44	48	45	39	45	47
General farm	do.	37	37	37	34	32	31	30	27	28	32	32	29	27	25	22	21
Miscellaneous	do.	8	8	8	9	9	9	8	8	9	12	12	10	11	11	11	11

1/ Preliminary.

Table 11.- Investment, income and related factors, typical family operated cash grain farms, Corn Belt, 1930-45

Item	Unit	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945 1/
Total land in farm	Acres	200	202	202	203	204	208	209	211	214	217	220	222	223	228	230	230
Proportion rented	Percent	70	70	69	69	69	68	68	68	68	68	67	67	67	67	67	67
Cropland harvested	Acres	162	166	168	167	146	169	165	174	170	164	152	160	171	177	180	182
Total labor used	Hours	4,599	4,605	4,626	4,642	4,279	4,300	4,233	4,204	4,127	4,094	3,946	3,938	4,110	4,250	4,128	4,025
Labor hired	do.	920	927	942	918	633	713	642	627	555	501	456	443	585	814	764	683
Total investment	Dollars	35,049	30,665	25,530	20,416	22,185	23,650	25,677	26,954	28,921	28,710	29,055	29,495	32,003	38,826	44,579	47,157
Land and buildings	do.	29,326	26,084	22,253	17,670	19,000	19,939	21,527	22,609	24,137	23,914	24,178	24,365	25,021	29,868	34,960	37,720
Machinery and equipment	do.	1,597	1,542	1,405	1,252	1,187	1,209	1,254	1,406	1,593	1,639	1,581	1,611	1,815	1,997	2,096	2,403
Livestock	do.	1,767	1,373	970	816	812	824	1,276	1,188	1,207	1,250	1,202	1,313	1,888	2,867	2,737	2,432
Crops on hand	do.	2,359	1,666	902	678	1,186	1,679	1,620	1,751	1,984	1,907	2,094	2,166	3,279	4,094	4,786	4,602
Cash receipts	do.	3,435	2,015	1,334	1,869	2,105	2,622	3,958	3,097	3,159	3,729	3,749	4,793	6,924	9,126	9,085	9,193
Cash expenditures	do.	1,632	1,322	991	886	983	1,193	1,417	1,610	1,517	1,428	1,446	1,709	1,971	2,186	2,463	2,439
Net cash farm income	do.	1,803	693	343	1,003	1,122	1,429	2,541	1,487	1,642	2,301	2,303	3,084	4,953	6,940	6,622	6,754
Value of perquisites	do.	383	315	258	262	280	334	346	350	318	308	311	376	444	538	537	577
Net change in inventory	do.	-881	-686	-389	-88	-285	685	-429	988	149	43	141	1,391	1,537	74	-233	171
Net farm income	do.	1,305	322	212	1,177	1,117	2,448	2,458	2,825	2,109	2,652	2,755	4,851	6,934	7,552	6,926	7,502
Rent and interest paid by operator	Dollars	707	467	324	334	372	918	650	1,261	743	929	914	1,311	1,788	2,058	2,206	2,307
Operator's net farm income	do.	598	-145	-112	843	745	1,530	1,808	1,564	1,366	1,723	1,841	3,540	5,146	5,494	4,720	5,195
Operator's net cash farm income	do.	1,032	139	-91	559	658	445	1,850	183	855	1,327	1,345	1,723	3,111	4,826	4,331	4,331
Allocation of net farm income																	
Land and buildings (net rental)	Dollars	800	458	253	276	351	1,158	779	1,680	921	1,189	1,182	1,769	2,478	2,885	3,095	3,246
Working assets (current interest rate)	do.	395	312	223	181	197	219	241	239	263	269	258	280	363	475	500	491
Total investment	do.	1,195	770	476	457	548	1,377	1,020	1,919	1,184	1,458	1,440	2,049	2,841	3,360	3,595	3,737
Operator and family labor	do.	110	-448	-264	720	569	1,071	1,438	906	925	1,194	1,315	2,802	4,093	4,192	3,331	3,765
Operator's labor	do.	-246	-726	-447	546	388	869	1,209	649	666	930	1,070	2,499	3,740	3,798	2,934	3,347
All labor	do.	357	-253	-128	837	657	1,187	1,556	1,038	1,042	1,300	1,414	2,919	4,277	4,533	3,681	4,102
Percentage return to investment	Percent	3.4	2.5	1.9	2.2	2.5	5.8	4.0	7.1	4.1	5.1	5.0	7.0	8.9	8.7	8.1	7.9
Return per hour to all labor used	Dollars	.08	-.05	-.03	.18	.15	.28	.37	.25	.25	.32	.36	.74	1.04	1.07	.89	1.02
Index numbers (1930-44 = 100)																	
Gross farm income	Percent	65	39	31	51	48	80	82	93	78	91	93	142	193	213	201	214
Operator's net farm income	do.	29	-7	-5	41	37	75	88	77	66	84	90	173	252	269	231	254
Total production	do.	75	88	105	71	55	98	67	121	109	109	100	114	130	130	128	129
Production per hour of man labor	do.	69	80	96	65	55	97	67	121	111	113	108	123	134	130	131	135
Operating expense per unit of production	do.	157	114	78	104	135	78	122	75	83	83	89	86	87	101	108	109
Total cost per unit of production	do.	145	94	58	77	108	84	113	86	78	84	91	99	110	132	141	147
Total input per unit of production	do.	136	111	89	129	166	91	134	75	84	84	91	80	75	77	78	79
Power and machinery used (quantity)	do.	111	108	101	93	86	82	83	90	99	103	102	101	108	115	118	133
Prices received for products sold	do.	109	69	43	53	71	97	106	110	80	82	88	115	142	164	171	123
Prices paid including wages to hired labor	do.	117	104	89	82	87	90	94	98	97	96	95	100	108	120	123	124

1/ Preliminary.

NOTE: See text for explanation of terms.

Location and general characteristics of typical family-operated hog-beef fattening farms, Corn Belt

These farms are found all along the broad fertile valleys of the Big Sioux and the Missouri Rivers beginning some 30 miles north of Sioux Falls, S. Dak., and extending on both sides of these rivers almost to Topeka, Kans. and Kansas City, Mo., and in the fertile rolling loess prairies along the Mississippi River in east-central Iowa and west-central Illinois. Adjacent to the areas of these farms are the cash-grain farms which supply much of the grains for fattening the livestock on the hog-beef fattening farms. Local markets in Omaha, Davenport, and Ottumwa, as well as the central markets in Chicago take the livestock from these farms.

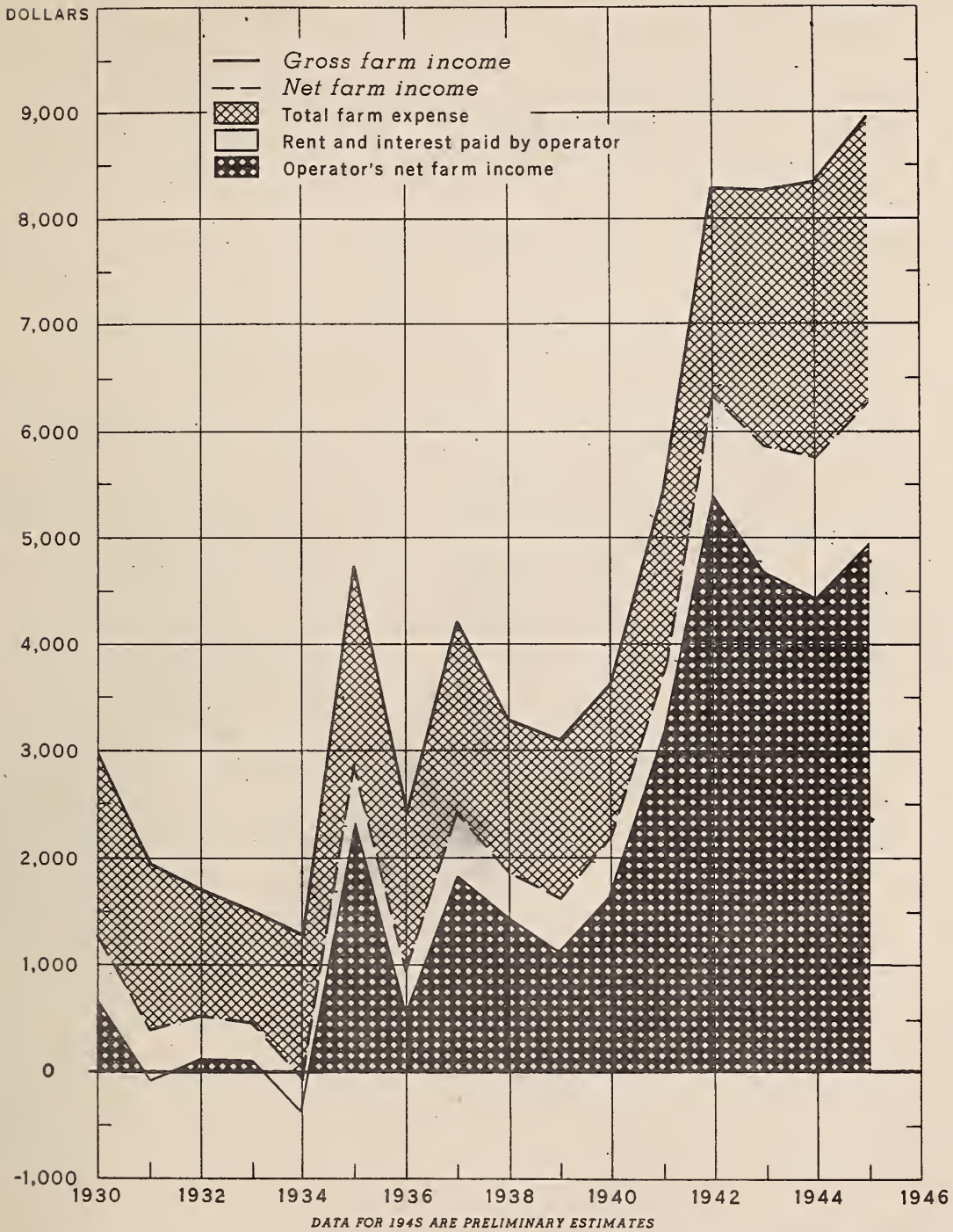
About 80 percent of the income on these farms is from the sale of fat cattle and hogs. These farmers breed and raise a few cattle of their own selection to be fattened along with a few feeders of the same breed, which they buy from nearby markets. Hogs are run with the cattle during the fattening period, utilizing feeds that would otherwise go to waste. Between 17,000 and 18,000 pounds of hogs and 15,000 pounds of cattle are sold annually.

Although the land is somewhat rolling it is managed and cropped in such a way that erosion is not a serious problem and the productiveness of the soil is maintained. About 28 percent of the farm land is in fairly productive permanent pasture and 16 percent is in hay. Approximately one-third of the land is in intertilled crops—51 percent corn and 2 percent soybeans. Extensive use of hybrid seed corn together with well-planned crop rotation and intensive livestock programs have maintained crop yields at a comparatively high level.

These farms are large enough and grow a large enough acreage of intertilled crops to make fairly effective use of mechanical equipment; 90 percent of the farms are operated with row-crop tractors and attachments. Extensive use is also made of corn pickers, combines, and other labor-saving equipment. Expenditures for power and machinery constitute the largest single item of expense on these farms.

With the increased use of these labor-saving devices, together with extensive use of hybrid-seed corn and improved varieties of other crops, with good management and production practices and favorable weather, operators of these farms increased their total combined output of crops and livestock in 1940-44 by 46 percent above that of 1930-34, with a decrease of 9 percent in labor used. The total output per hour of man labor in 1940-44 was 67 percent more than the output in 1930-34. Operating expense (total production expense excluding return to operator and family labor and investment) per dollar of gross income was 77 cents in 1930-34 compared with 30 cents in 1940-44.

INCOME AND EXPENSE, TYPICAL FAMILY-OPERATED HOG-BEEF FATTENING FARMS, CORN BELT, 1930-45



DATA FOR 1945 ARE PRELIMINARY ESTIMATES

U.S. DEPARTMENT OF AGRICULTURE NEG. 45677 BUREAU OF AGRICULTURAL ECONOMICS

FIGURE 14

Table 12.- Land use, livestock numbers and distribution of income and expense, typical family operated hog-beef fattening farms, Corn Belt 1930-45

Item	Unit	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945 1/
Total land in farm	Acres	186	186	187	187	187	186	189	192	193	195	196	200	204	207	210	210
Proportion of farm land in:																	
Cropland harvested	Percent	70	69	70	69	58	67	67	69	67	64	63	63	65	66	66	67
Idle, and failure	do.	2	2	2	3	10	3	3	2	4	5	6	6	4	4	5	4
Pasture and other land	do.	28	29	28	28	32	30	30	29	29	31	31	31	31	30	29	29
Crops harvested:																	
Corn	Acres	66.3	68.1	68.6	66.8	55.8	60.6	63.3	66.7	62.5	58.5	56.1	57.7	62.5	70.9	75.0	75.8
Small grain	do.	36.5	35.0	35.2	34.4	25.7	35.9	34.0	39.6	37.4	33.7	32.8	32.9	32.7	30.6	29.0	32.0
Soybeans	do.	.7	.9	.7	.7	1.0	1.9	1.5	1.8	1.9	3.0	3.4	3.5	5.4	5.4	5.2	4.9
Hay	do.	26.2	25.4	26.2	27.1	25.5	25.6	27.3	24.1	26.3	28.6	31.5	31.4	31.9	28.9	29.9	29.3
Crop yield (per harvested acre):																	
Corn	Bushels	33.2	32.6	42.1	35.7	14.6	34.4	16.9	40.3	38.4	42.5	45.9	47.3	60.6	54.2	54.2	52.4
Oats	do.	34.8	31.2	34.6	19.7	9.1	30.9	22.7	42.2	32.5	25.3	39.2	34.9	38.0	42.4	31.6	37.2
All crops (index 1930-44 = 100)	Percent	96	88	104	84	46	98	63	104	101	100	116	109	130	133	128	121
Livestock on farm January 1:																	
All cattle	Number	33.9	33.3	33.3	36.0	38.4	36.9	40.5	33.8	35.0	37.1	37.0	41.1	42.6	45.3	47.3	50.0
Milk cows	do.	2.9	2.9	3.0	3.1	3.3	3.9	3.9	3.1	3.2	3.4	3.5	3.9	4.1	4.3	4.5	4.8
Hogs, all ages	do.	62.4	56.3	55.5	59.7	56.2	37.5	42.5	38.9	42.2	47.9	53.3	54.2	56.0	71.1	75.3	55.3
Poultry	do.	129	124	120	119	117	113	111	108	110	111	112	117	123	137	145	129
Workstock	do.	5.5	5.3	5.2	5.1	5.0	4.8	4.7	4.5	4.3	4.2	4.1	4.0	3.9	3.6	3.2	3.0
Farms with tractors	Percent	40	37	34	33	36	42	51	59	66	71	76	81	85	87	87	90
Proportion of cash receipts from:																	
Corn	Percent	1	0	0	3	0	0	0	0	1	0	1	1	3	10	14	17
Soybeans	do.	0	0	0	0	0	0	0	0	1	1	1	2	3	2	2	2
Other crops	do.	2	0	0	3	0	0	0	0	3	1	5	2	2	2	4	4
Hogs	do.	43	39	32	37	29	30	35	34	37	33	29	40	41	43	40	33
Cattle	do.	43	49	55	44	50	48	48	52	42	45	47	40	36	31	29	33
Other livestock	do.	4	4	5	4	3	4	3	4	4	4	2	2	2	2	2	2
Livestock products	do.	7	8	8	9	9	9	7	8	8	7	7	8	8	7	8	8
Government payments	do.	--	--	--	0	9	9	7	2	4	9	8	5	5	3	1	1
Proportion of cash expenditures for:																	
Feed	do.	8	14	10	8	33	42	15	24	7	9	9	9	11	11	9	9
Labor	do.	22	20	18	20	11	8	15	12	15	17	13	13	17	25	24	25
Power and machinery	do.	28	24	27	27	23	23	33	32	39	33	35	39	35	28	34	34
General farm	do.	27	27	28	26	18	16	22	19	23	25	26	23	22	20	17	16
Miscellaneous	do.	15	15	17	19	15	11	15	13	16	16	17	16	15	16	16	16

1/ Preliminary.

Table 13.- Investment, income and related factors, typical family operated hog-beef fattening farms, Corn Belt, 1930-45

Item	Unit	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945 1/
Total land in farm	Acres	186	186	187	187	187	186	189	192	193	195	196	200	204	207	210	210
Proportion rented	Percent	56	56	56	56	56	56	56	57	57	57	57	57	57	57	57	57
Cropland harvested	Acres	130	129	131	129	108	124	126	132	128	124	124	126	132	136	139	142
Total labor used	Hours	5,256	5,232	5,183	5,256	4,901	4,866	5,084	4,935	4,955	5,088	4,566	4,667	4,782	4,962	4,915	4,886
Labor hired	do.	1,340	1,320	1,270	1,340	1,020	1,040	1,250	1,100	1,140	1,240	840	910	1,110	1,440	1,440	1,416
Total investment	Dollars	29,809	25,866	20,738	16,259	17,563	18,138	20,183	20,361	21,000	20,889	20,530	21,455	25,054	29,799	33,016	35,196
Land and buildings	do.	23,089	20,515	17,195	13,284	14,204	14,547	15,333	15,769	16,011	15,771	15,516	15,768	17,748	19,665	21,840	23,940
Machinery and equipment	do.	1,439	1,385	1,248	1,107	1,035	1,022	1,058	1,167	1,309	1,357	1,325	1,331	1,513	1,674	1,757	2,017
Livestock	do.	3,315	2,442	1,606	1,342	1,316	1,557	2,597	2,243	2,320	2,487	2,305	2,640	3,578	5,300	5,151	4,911
Crops on hand	do.	1,966	1,524	689	526	1,008	1,012	1,195	1,182	1,360	1,274	1,384	1,716	2,215	3,160	4,268	4,328
Cash receipts	do.	3,818	2,555	1,645	1,634	2,144	3,029	3,763	3,214	2,846	3,016	2,928	4,413	5,931	8,098	8,123	8,530
Cash expenditures	do.	1,835	1,552	1,082	938	1,342	1,977	1,748	2,077	1,673	1,627	1,555	1,917	2,262	2,650	2,949	3,042
Net cash farm income	do.	1,983	1,003	563	696	802	1,052	2,015	1,137	1,173	1,389	1,373	2,496	3,669	5,448	5,174	5,488
Value of perquisites	do.	393	322	265	268	284	337	352	356	327	314	316	384	480	530	530	569
Net change in inventory	do.	-1,098	-926	-310	-511	-1,174	1,493	-1,402	943	351	-81	519	927	2,198	-104	62	227
Net farm income	do.	1,278	399	518	453	-84	2,882	965	2,436	1,851	1,622	2,208	3,807	6,347	5,874	5,766	6,284
Rent and interest paid by operator	Dollars	612	471	391	343	300	543	408	606	422	490	576	647	948	1,196	1,345	1,353
Operator's net farm income	do.	666	-72	127	110	-384	2,339	557	1,830	1,429	1,132	1,632	3,160	5,399	4,676	4,421	4,931
Operator's net cash farm income	do.	1,319	462	90	266	419	454	1,575	495	715	855	749	1,799	2,674	4,204	3,760	4,041
Allocation of Net Farm Income																	
Land and buildings (net rental)	Dollars	789	546	410	336	292	741	512	857	545	658	817	935	1,461	1,904	2,156	2,153
Working assets (current interest rate)	do.	464	364	241	196	208	212	281	253	274	287	266	313	380	537	581	585
Total investment	do.	1,253	910	651	532	500	953	793	1,110	819	945	1,083	1,248	1,841	2,441	2,737	2,738
Operator and family labor	do.	25	-511	-133	-79	-584	1,929	172	1,326	1,032	677	1,125	2,559	4,506	3,433	3,029	3,546
Operator's labor	do.	-392	-833	-354	-273	-792	1,697	-91	1,030	737	377	845	2,206	4,120	3,012	2,591	3,075
All labor	do.	383	-238	47	87	-445	2,093	394	1,546	1,262	926	1,296	2,788	4,846	4,026	3,691	4,250
Percentage return on investment	Percent	4.2	3.5	3.1	3.3	2.8	5.3	3.9	5.5	3.9	4.5	5.3	5.8	7.3	8.2	8.3	7.8
Return per hour to all labor used	Dollars	.07	-.05	.01	.02	-.09	.43	.08	.31	.25	.18	.28	.60	1.01	.81	.75	.87
Index numbers (1930-44 = 100)																	
Gross farm income	Percent	73	48	42	37	31	116	59	103	81	77	89	133	203	203	205	220
Operator's net farm income	do.	36	-4	7	6	20	127	30	99	77	61	88	171	292	252	238	266
Total production	do.	89	86	101	85	54	89	110	99	93	88	98	105	124	138	141	144
Production per hour of man labor	do.	84	82	97	80	54	90	107	100	92	86	107	111	129	137	144	146
Operating expense per unit of production	do.	123	107	72	80	148	110	80	102	96	102	88	92	92	102	106	109
Total cost per unit of production	do.	133	104	66	71	117	92	74	96	93	101	92	100	107	124	130	133
Total input per unit of production	do.	113	111	90	105	160	100	86	96	103	108	94	96	82	78	78	78
Power and machinery used (quantity)	do.	112	109	103	95	86	84	85	90	97	103	102	100	106	114	114	128
Prices received for products sold	do.	111	79	56	50	61	106	99	116	92	87	85	113	146	153	146	154
Prices paid including wages to hired labor	do.	114	94	77	78	84	92	94	98	97	96	95	102	114	130	135	137

1/ Preliminary.

NOTE: See text for explanation of terms.

Location and characteristics of typical family-operated hog-beef raising farms, Corn Belt

These farms are found mostly in the rolling terrain of the drift hills and flats along the southern border of the Corn Belt proper. They are situated in the silty lands of west-central Ohio, and central Indiana, and in the loess flats and drift hills of southern Iowa, and northeastern Missouri, and extending into central Illinois. They are in one of the more hazardous and less productive areas in the Corn Belt and have neither offered the farm operators the opportunity for their labor and capital nor yielded the returns that many other Corn Belt farms have. In 1934 average crop production per farm was as follows: Corn, 248 bushels; oats, 96 bushels; and hay only 16 tons, with a reduction of pasture and of acreage of new seedings. This production represents about 20 percent of the normal grain production and about 60 percent of the normal hay production on these farms. Production in 1936 was only slightly better.

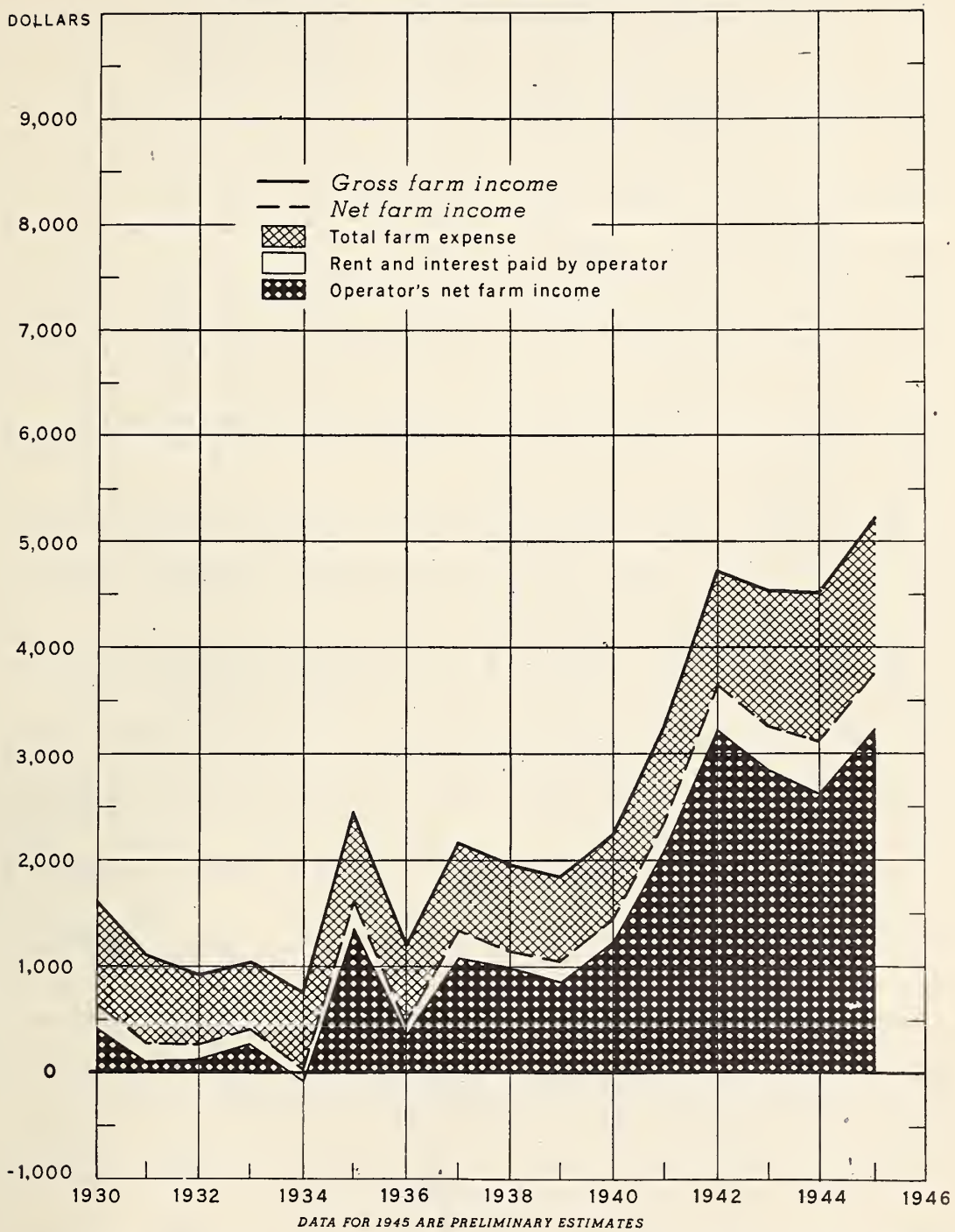
As a result, these farmers were forced to liquidate much of their livestock enterprises. Hog numbers in 1935, 1936, and 1937 were about half of normal. Milk cows were fed less and production was reduced. It has taken the operators of these farms a long time to overcome the drastic effects of these droughts and the forced liquidation of livestock. It was not until 1943 that livestock enterprises resumed pre-drought proportions. Total production in 1934-39 was 74 percent of the 1940-44 production and 87 percent of the 1930-44 production. The production in 1934 and 1936 was just half of the 1940-44 production.

The farms, although not so small in total acres are small in many respects, when compared with many other Corn Belt farms. A little over half of the farm land is cropped. Of this about 45 percent is in intertilled crops. The remainder is divided equally between small grains and hay. Yields of corn and oats are about 80 percent of the average for the Corn Belt.

Because relatively few acres are in cultivation and few acres (about 20 percent of the total farm land) are in intertilled crops, and perhaps because income has been comparatively erratic and uncertain on these farms, the operators have not been in a position to obtain and make effective use of mechanical power and equipment. Only 1 in 5 of these farmers had tractors in 1930. Half of them had tractors in 1944. Extensive use has not been made of corn pickers, pick-up balers, combines, and other labor-saving equipment. Labor requirements have changed very little on these farms.

The income is obtained almost equally from 4 sources with hogs having a slight advantage. Hogs contribute about 28 percent of the gross income with cattle, livestock products, and crops each contributing about 20 percent.

INCOME AND EXPENSE, TYPICAL FAMILY-OPERATED HOG-BEEF RAISING FARMS, CORN BELT, 1930-45



DATA FOR 1945 ARE PRELIMINARY ESTIMATES

U. S. DEPARTMENT OF AGRICULTURE NEG. 45678 BUREAU OF AGRICULTURAL ECONOMICS

FIGURE 15

Table 14.- Land use, livestock numbers and distribution of income and expense, typical family operated hog-beef raising farms, Corn Belt 1930-45

Item	Unit	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945 1/
Total land in farm	Acres	154	154	154	154	156	156	160	162	164	163	171	168	174	173	177	177
Proportion of farm land in:																	
Cropland harvested	Percent	57	58	57	58	50	53	54	53	52	51	48	50	51	52	52	54
Idle, and failure	do.	3	2	3	4	9	7	6	6	6	7	7	7	5	4	5	4
Pasture and other land	do.	40	40	40	38	41	40	40	41	42	42	45	43	44	44	43	42
Crops harvested:																	
Corn	Acres	39.4	41.4	40.4	39.2	31.5	35.4	37.2	36.4	35.3	34.4	32.4	32.8	35.3	39.6	44.0	42.8
Small grain	do.	25.2	26.6	25.4	23.7	16.7	22.7	22.6	28.6	28.0	24.2	22.2	22.8	22.4	22.1	18.9	23.0
Soybeans	do.	1.6	1.5	1.2	1.9	2.9	3.2	1.8	1.8	2.6	3.7	4.5	5.1	6.9	7.7	6.8	6.7
Hay	do.	21.1	20.3	21.1	24.3	26.2	22.1	24.1	19.0	20.3	21.1	23.6	22.4	24.0	21.5	23.3	22.4
Crop yield (per harvested acre):																	
Corn	Bushels	24.4	29.3	35.7	29.7	7.9	29.4	9.6	37.0	32.7	34.7	38.4	38.7	49.1	39.8	42.3	41.6
Oats	do.	28.7	28.0	31.1	14.7	8.6	27.5	18.1	36.3	33.3	21.6	32.5	31.0	32.3	33.0	26.0	31.0
All crops (index 1930-44 = 100)	Percent	91	98	105	81	41	100	53	114	107	98	120	115	133	124	120	120
Livestock on farm January 1:																	
All cattle	Number	25.0	23.0	23.2	25.4	28.0	25.4	26.7	23.5	24.5	24.8	25.9	27.5	28.2	28.5	31.1	32.3
Milk cows	do.	4.4	4.2	4.5	4.5	4.8	4.9	4.7	4.7	4.5	4.7	4.8	5.2	5.3	5.4	5.9	6.1
Hogs, all ages	do.	35.2	31.7	33.6	35.1	34.4	16.0	19.0	16.2	18.5	22.2	23.1	21.5	25.4	28.4	28.3	23.6
Poultry	do.	118	111	105	104	103	90	89	89	86	95	99	105	110	122	130	115
Workstock	do.	4.1	4.0	3.9	3.8	3.8	3.8	3.7	3.7	3.7	3.7	3.6	3.5	3.5	3.5	3.3	3.0
Farms with tractors	Percent	20	19	17	17	19	21	23	28	31	35	37	39	46	50	50	54
Proportion of cash receipts from:																	
Corn	Percent	1	0	0	4	0	0	0	0	9	5	9	10	8	13	16	21
Soybeans	do.	1	1	1	2	2	3	1	2	2	4	3	4	5	5	4	5
Other crops	do.	3	0	4	7	0	0	6	0	5	5	6	6	5	5	6	4
Hogs	do.	44	45	39	38	33	28	33	33	29	27	22	25	32	33	28	25
Cattle	do.	27	25	25	22	30	27	27	28	26	27	26	24	23	16	20	19
Other livestock	do.	7	9	10	8	7	8	7	9	7	7	7	6	6	6	5	5
Livestock products	do.	17	20	21	19	19	23	17	23	16	15	18	18	16	18	19	20
Government payments	do.	--	--	--	0	9	11	9	5	6	10	9	7	5	4	2	1
Proportion of cash expenditures for:																	
Feed	do.	8	6	6	8	27	33	7	13	6	8	8	8	10	10	8	8
Labor	do.	13	14	12	11	6	6	8	7	7	9	7	6	10	18	20	19
Power and machinery	do.	30	29	28	32	27	27	39	43	48	39	42	50	45	32	40	44
General farm	do.	33	35	37	33	24	21	30	24	25	30	28	23	22	23	18	16
Miscellaneous	do.	16	16	17	16	16	13	16	13	14	14	15	13	13	17	14	13

1/ Preliminary.

Table 15.- Investment, income and related factors, typical family operated hog-beef raising farms, Corn Belt, 1930-45

Item	Unit	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945 1/
Total land in farm	Acres	154	154	154	154	156	156	160	162	164	163	171	168	174	173	177	177
Proportion rented	Percent	47	48	49	49	50	51	51	51	50	50	50	50	50	49	49	49
Cropland harvested	Acres	87	90	88	89	77	83	86	86	86	83	83	83	89	91	93	95
Total labor used	Hours	4,118	4,068	4,043	4,108	3,893	3,754	3,882	3,771	3,818	3,898	3,692	3,767	3,850	3,929	4,000	3,957
Labor hired	do.	470	450	430	470	300	270	360	290	320	350	260	290	380	550	640	600
Total investment	Dollars	16,402	13,668	10,828	8,251	9,026	9,184	10,019	9,885	10,416	10,290	10,608	11,038	13,019	15,678	17,732	18,721
Land and buildings	do.	12,012	10,318	8,470	6,314	6,864	7,020	7,040	7,128	7,216	7,009	7,353	7,392	8,330	9,515	11,151	12,036
Machinery and equipment	do.	890	852	753	663	626	608	611	670	791	868	856	868	1,015	1,121	1,179	1,333
Livestock	do.	2,452	1,733	1,179	983	997	1,097	1,737	1,571	1,647	1,734	1,694	1,857	2,462	3,341	3,342	3,236
Crops on hand	do.	1,048	765	426	291	539	459	631	516	762	679	705	921	1,212	1,701	2,060	2,116
Cash receipts	do.	2,042	1,206	802	912	1,128	1,314	1,697	1,300	1,544	1,600	1,629	2,391	3,297	4,147	4,100	4,573
Cash expenditures	do.	918	719	525	503	667	821	767	930	891	792	792	1,035	1,170	1,238	1,501	1,587
Net cash farm income	do.	1,124	487	277	409	461	493	930	370	653	808	837	1,356	2,127	2,909	2,599	2,986
Value of perquisites	do.	351	284	230	233	250	308	317	320	287	278	284	346	427	494	492	531
Net change in inventory	do.	-836	-478	-237	-215	-688	808	-768	667	210	-42	341	666	1,097	-116	37	265
Net farm income	do.	639	293	270	427	23	1,609	479	1,357	1,150	1,044	1,462	2,368	3,651	3,287	3,128	3,782
Rent and interest paid by operator	Dollars	235	191	141	134	97	248	132	271	165	181	227	255	391	439	499	518
Operator's net farm income	do.	404	102	129	293	-74	1,361	347	1,086	985	863	1,235	2,113	3,260	2,848	2,629	3,264
Operator's net cash farm income	do.	859	260	161	312	367	212	777	77	466	605	585	1,075	1,708	2,441	2,061	2,419
Allocation of net farm income																	
Land and buildings (net rental)	Dollars	268	188	95	95	46	355	141	422	222	255	350	409	680	792	923	961
Working assets (current interest rate)	do.	303	228	160	128	134	128	173	152	176	184	173	201	244	327	342	348
Total investment	do.	571	416	255	223	180	483	314	574	398	439	523	610	924	1,119	1,265	1,309
Operator and family labor	do.	68	-123	15	204	-157	1,126	165	783	752	605	939	1,758	2,727	2,168	1,863	2,473
Operator's labor	do.	-271	-379	-162	46	-324	950	-39	560	525	369	721	1,480	2,409	1,818	1,490	2,070
All labor	do.	191	-32	76	262	-117	1,168	228	840	816	674	992	1,830	2,841	2,387	2,157	2,771
Percentage return to investment	Percent	3.5	3.0	2.4	2.7	2.0	5.3	3.1	5.8	3.8	4.3	4.9	5.5	7.1	7.1	7.1	7.0
Return per hour to all labor used	Dollars	.05	-.01	.02	.06	-.03	.31	.06	.22	.21	.17	.27	.49	.74	.61	.54	.70
Index numbers (1930-44 = 100)																	
Gross farm income	Percent	70	48	40	45	33	107	52	95	85	80	99	143	206	199	198	229
Operator's net farm income	do.	34	9	11	25	-6	116	30	93	84	74	105	180	278	243	224	278
Total production	do.	90	102	108	92	59	103	60	107	98	94	107	108	127	120	125	124
Production per hour of man labor	do.	86	98	104	88	59	106	60	110	100	94	113	111	129	119	123	122
Operating expense per unit of production	do.	122	89	67	76	149	93	140	87	89	93	82	91	91	113	118	124
Total cost per unit of production	do.	127	89	60	63	115	83	130	89	88	92	84	97	104	136	143	150
Total input per unit of production	do.	113	95	84	96	152	83	157	85	95	101	88	91	81	91	88	90
Power and machinery used (quantity)	do.	110	106	99	90	84	81	80	85	95	105	105	104	113	120	123	135
Prices received for products sold	do.	107	74	50	51	58	97	100	107	90	84	86	115	147	167	167	182
Prices paid including wages to hired labor	do.	115	102	87	80	87	90	94	99	97	95	94	99	109	124	128	129

1/ Preliminary.

NOTE: See text for explanation of terms.

Location and general characteristics of typical family-operated hog-dairy farms, Corn Belt

The hog-dairy combination is common in the rolling Dubuque Hills along the Mississippi River in northeastern Iowa and northwestern Illinois; the Drift Prairies of northern Illinois, northern Indiana and southern Michigan and in the Maumee lands of northwestern Ohio. The terrain on these farms ranges from level to comparatively rough. A considerable portion of the land is in grass and hay.

These hog-dairy farms average about 140 acres, of which about 45 percent is in hay and pasture, 25 percent in small grains, and 25 percent in intertilled crops (31 acres of corn for grain and 4 acres of corn for silage). The operators of these farms milk about 12 fairly high producing cows, raise their replacements for the dairy herd, and market between 10 and 14 thousand pounds of hogs each year. A poultry enterprise of approximately 120 layers supplements these enterprises and contributes materially to the income.

Hogs and dairy, of course, are the two important enterprises and each contribute between 35 and 40 percent of the income. Some hay and grains have been sold in recent years, but this is not a common practice. Recent years have been exceptionally good crop years and then crop production outran the rather stable livestock enterprises.

These farms are among the best balanced farms in the Corn Belt so far as feed, livestock, and labor are concerned. Crop and livestock production is well balanced and the operator's time and family labor are well utilized throughout the year. About 20 percent of the labor used on these farms is hired. Increased efficiencies in the use of labor have not been nearly so pronounced in the livestock enterprises (particularly the dairy) as in the crop enterprises. Therefore, these farmers have not materially reduced labor requirements and cut the amount of hired labor so much as the grain farmers.

Because of the favorable location, relative to precipitation and the well adapted system of farming, the crop yields have been maintained. Crop yields on these farms are among the highest in the Corn Belt. The droughts of 1934 and 1936 had much less effect on the operations than on most farms throughout the Corn Belt. Corn production on these farms in 1934 and 1936 was about 80 percent of normal, production of hay and silage was nearly normal, and small-grain production, though reduced in 1934, was near normal in 1936.

With increased use of hybrid-seed corn and improved varieties of other crops, together with more abundant rain and better growing weather and improved management practices, production on these farms has been increased during recent years. Production in 1940-44 was 24 percent above that of 1930-34. But hog-dairy farmers obtained this increased production only with increased labor. Under present conditions these farmers have too few acres of intertilled crops to make the most effective use of labor-saving equipment. Production per hour of man labor in 1940-44 was about 15 percent more than that of 1930-34.

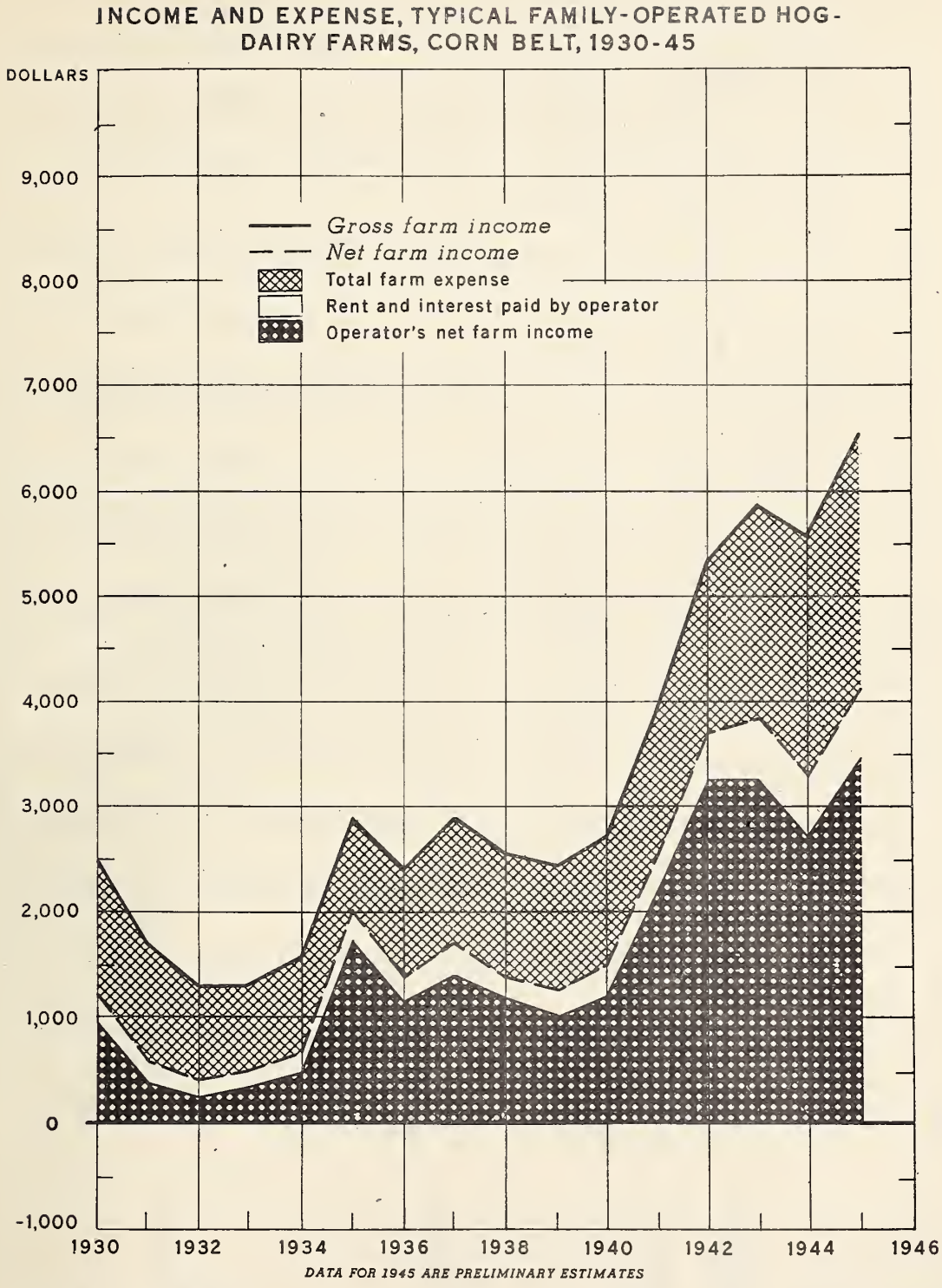

INCOME AND EXPENSE, TYPICAL FAMILY-OPERATED HOG-DAIRY FARMS, CORN BELT, 1930-45
DOLLARS
9,000
8,000
7,000
6,000
5,000
4,000
3,000
2,000
1,000
0
-1,000
1930
1932
1934
1936
1938
1940
1942
1944
1946
Gross farm income
Net farm income
Total farm expense
Rent and interest paid by operator
Operator's net farm income
DATA FOR 1945 ARE PRELIMINARY ESTIMATES
U.S. DEPARTMENT OF AGRICULTURE
NEG. 45679
BUREAU OF AGRICULTURAL ECONOMICS

FIGURE 16

Table 16.- Land use, livestock numbers and distribution of income and expense, typical family operated hog-dairy farms, Corn Belt 1930-45

Item	Unit	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945 1/
Total land in farm	Acres	130	131	131	131	132	133	133	132	134	134	136	134	138	138	140	140
Proportion of farm land in:																	
Cropland harvested	Percent	61	63	63	62	55	61	62	60	61	59	60	60	61	62	64	65
Idle, and failure	do.	7	6	6	7	13	7	6	7	6	7	6	5	5	4	3	2
Pasture and other land	do.	32	31	31	31	32	32	32	33	33	34	34	35	34	34	33	33
Crops harvested:																	
Corn (all purpose)	Acres	34.5	36.5	36.7	35.6	30.5	33.9	36.2	35.0	34.7	32.8	32.5	32.5	34.8	37.7	41.0	41.0
Small grain	do.	27.2	27.8	28.1	27.8	24.7	27.9	26.5	28.6	27.3	24.9	25.1	24.9	24.1	23.1	24.0	26.1
Soybeans	do.	.8	1.0	1.1	.7	1.0	1.4	1.2	1.3	1.4	2.4	2.9	3.0	5.0	4.8	5.2	4.7
Hay	do.	16.9	16.9	15.8	17.2	16.1	17.6	18.5	15.2	17.8	18.9	20.8	19.3	19.8	20.1	19.6	19.4
Crop yield (per harvested acre):																	
Corn	Bushels	36.1	39.3	41.4	36.4	32.5	42.0	28.8	45.7	46.4	54.7	48.9	51.6	58.2	58.1	48.1	53.0
Oats	do.	38.6	32.2	35.7	22.6	13.7	32.1	30.6	39.4	29.8	29.0	42.6	35.4	38.5	32.8	24.4	34.7
All crops (index 1930-44 = 100)	Percent	97	94	99	80	67	102	80	104	103	105	116	113	123	113	104	114
Livestock on farm January 1:																	
All cattle	Number	17.1	17.0	17.7	17.3	17.7	17.2	17.8	17.7	18.1	18.3	18.9	19.1	19.5	20.1	20.6	21.6
Milk cows	do.	10.7	10.6	11.0	10.8	11.0	10.8	11.1	11.0	11.3	11.4	11.8	11.9	12.2	12.6	12.9	13.4
Hogs, all ages	do.	37.6	38.2	39.0	42.1	39.4	26.6	28.8	28.9	30.5	34.5	35.4	34.4	38.4	39.7	46.3	34.9
Poultry	do.	121	121	115	112	110	115	114	111	110	110	112	118	127	141	150	133
Workstock	do.	4.0	4.0	3.9	3.9	3.9	3.7	3.5	3.3	3.2	3.2	3.1	3.0	2.9	2.7	2.5	2.3
Farms with tractors	Percent	28	28	24	22	26	29	33	39	45	51	56	58	63	67	67	70
Proportion of cash receipts from:																	
Corn	Percent	0	0	0	0	0	0	6	0	0	6	7	3	3	7	8	8
Soybeans	do.	1	0	1	1	1	1	1	1	1	1	1	2	3	4	3	3
Other crops	do.	1	0	0	2	0	0	5	0	3	3	6	6	4	4	6	6
Hogs	do.	42	44	36	39	32	34	34	39	38	34	26	33	39	33	35	29
Cattle	do.	11	9	12	9	10	10	8	10	11	11	11	10	9	8	7	8
Other livestock	do.	5	6	7	6	6	5	5	6	5	5	4	4	4	5	4	5
Livestock products	do.	40	41	44	43	44	41	36	42	38	32	38	37	34	36	36	40
Government payments	do.	--	--	--	0	7	9	5	2	4	8	7	5	4	3	1	1
Proportion of cash expenditures for:																	
Feed	do.	8	10	10	8	24	9	8	14	6	8	7	7	8	8	7	7
Labor	do.	24	23	22	22	16	20	20	17	20	22	28	27	31	40	40	40
Power and machinery	do.	26	25	27	30	25	32	36	39	42	36	31	35	31	22	28	31
General farm	do.	29	28	28	26	21	24	23	19	21	22	22	19	19	17	14	12
Miscellaneous	do.	13	14	13	14	14	15	13	11	11	12	12	12	11	13	11	10

1/ Preliminary.

Table 17.- Investment, income and related factors, typical family operated hog-dairy farms, Corn Belt, 1930-45

Item	Unit	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945 1/
Total land in farm	Acres	130	131	131	131	132	133	133	132	134	134	136	134	138	138	140	140
Proportion rented	Percent	47	47	48	48	48	48	48	48	48	48	48	48	48	48	48	48
Cropland harvested	Acres	79	82	82	81	72	81	82	80	81	79	81	80	84	86	90	91
Total labor used	Hours	5,064	5,135	5,171	5,141	4,911	4,968	5,089	4,996	5,092	5,121	5,334	5,321	5,447	5,583	5,589	5,592
Labor hired	do.	1,090	1,145	1,140	1,153	938	1,059	1,176	1,084	1,180	1,208	1,527	1,514	1,721	2,033	2,090	2,093
Total investment	Dollars	16,656	14,601	11,607	9,235	10,211	11,398	12,358	12,874	13,328	13,552	13,726	14,188	16,099	18,933	21,554	22,503
Land and buildings	do.	12,090	10,742	8,908	7,074	7,788	8,246	8,911	9,108	9,514	9,648	9,792	10,050	10,720	12,144	14,000	15,260
Machinery and equipment	do.	1,055	995	892	800	766	752	765	870	1,046	1,151	1,159	1,154	1,273	1,391	1,413	1,588
Livestock	do.	2,328	1,788	1,214	963	941	1,115	1,733	1,701	1,748	1,812	1,697	1,741	2,448	3,341	3,366	3,146
Crops on hand	do.	1,183	1,076	593	398	716	1,285	949	1,195	1,020	941	1,078	1,243	1,658	2,057	2,775	2,509
Cash receipts	do.	2,436	1,653	1,138	1,177	1,427	1,993	2,648	2,184	2,084	2,162	2,312	3,095	4,220	5,285	5,465	5,636
Cash expenditures	do.	1,218	1,015	759	677	820	856	1,085	1,338	1,290	1,197	1,194	1,455	1,712	2,017	2,394	2,571
Net cash farm income	do.	1,218	638	379	500	607	1,137	1,563	846	794	965	1,118	1,640	2,508	3,268	3,071	3,065
Value of perquisites	do.	368	301	246	249	262	319	333	337	307	293	296	357	435	527	512	550
Net change in inventory	do.	-384	-371	-233	-272	-218	551	-512	521	286	-12	76	551	753	44	-292	504
Net farm income	do.	1,202	568	392	477	651	2,007	1,384	1,704	1,387	1,246	1,490	2,548	3,696	3,839	3,291	4,119
Rent and interest paid by operator	Dollars	252	187	134	142	177	291	241	311	212	251	282	324	416	549	571	640
Operator's net farm income	do.	950	381	258	335	474	1,716	1,143	1,393	1,175	995	1,208	2,224	3,280	3,290	2,720	3,479
Operator's net cash farm income	do.	927	405	274	302	377	809	1,308	510	558	686	804	1,284	2,060	2,685	2,452	2,369
Allocation of net farm income																	
Land and buildings (net rental)	Dollars	337	200	94	119	209	454	364	515	312	391	456	543	735	1,014	1,069	1,203
Working assets (current interest rate)	do.	315	262	184	143	150	186	200	207	210	219	209	228	280	360	393	377
Total investment	do.	652	462	278	262	359	640	564	722	522	610	665	771	1,015	1,374	1,462	1,580
Operator and family labor	do.	590	106	114	215	292	1,367	820	982	865	636	825	1,777	2,681	2,465	1,829	2,539
Operator's labor	do.	121	-229	-124	11	67	1,117	536	652	538	309	514	1,398	2,276	2,044	1,392	2,067
All labor	do.	839	342	276	359	423	1,538	1,035	1,211	1,113	890	1,152	2,171	3,211	3,279	2,790	3,576
Percentage return to investment	Percent	3.9	3.2	2.4	2.8	3.5	5.6	4.6	5.6	3.9	4.5	4.8	5.4	6.3	7.3	6.8	7.0
Return per hour to all labor used	Dollars	.17	.07	.05	.07	.09	.31	.20	.24	.22	.17	.22	.41	.59	.59	.50	.64
Index numbers (1930-44 = 100)																	
Gross farm income	Percent	83	56	43	43	52	97	80	96	85	81	91	131	179	197	186	219
Operator's net farm income	do.	66	27	18	23	33	120	80	97	82	69	84	155	228	229	189	242
Total production	do.	93	98	102	86	77	94	82	100	100	104	107	105	117	121	114	120
Production per hour of man labor	do.	96	99	103	87	82	98	84	105	103	106	105	103	111	112	106	112
Operating expense per unit of production	do.	114	94	72	78	100	77	100	94	92	90	90	103	110	131	155	156
Total cost per unit of production	do.	119	90	63	67	89	84	102	98	90	89	90	105	114	139	161	163
Total input per unit of production	do.	109	100	92	108	118	98	116	95	97	95	93	97	91	90	101	97
Power and machinery used (quantity)	do.	106	101	95	89	83	80	80	86	99	110	112	109	113	119	118	128
Prices received for products sold	do.	109	76	51	52	63	99	106	109	90	79	82	110	143	166	165	182
Prices paid including wages to hired labor	do.	114	98	81	75	82	86	91	96	95	94	95	102	115	134	142	145

1/ Preliminary.

NOTE: See text for explanation of terms.

Location and general characteristics of typical family-operated spring wheat-corn-livestock farms, Northern Plains

These farms are located in the Black Prairie lands of northeastern South Dakota and southeastern North Dakota (fig. 1). As they lie in a transition area between the Corn Belt on the south and the wheat area on the north, they are naturally a combination of these two types of farming.

The farms average about 400 acres, which is somewhat larger in total acres than typical Corn Belt farms but smaller than the more specialized wheat farms. About 70 percent of the farm land is cultivated; the remainder is in open pasture.

Although wheat is their major enterprise considerable emphasis is placed on other cropping programs and on livestock production.

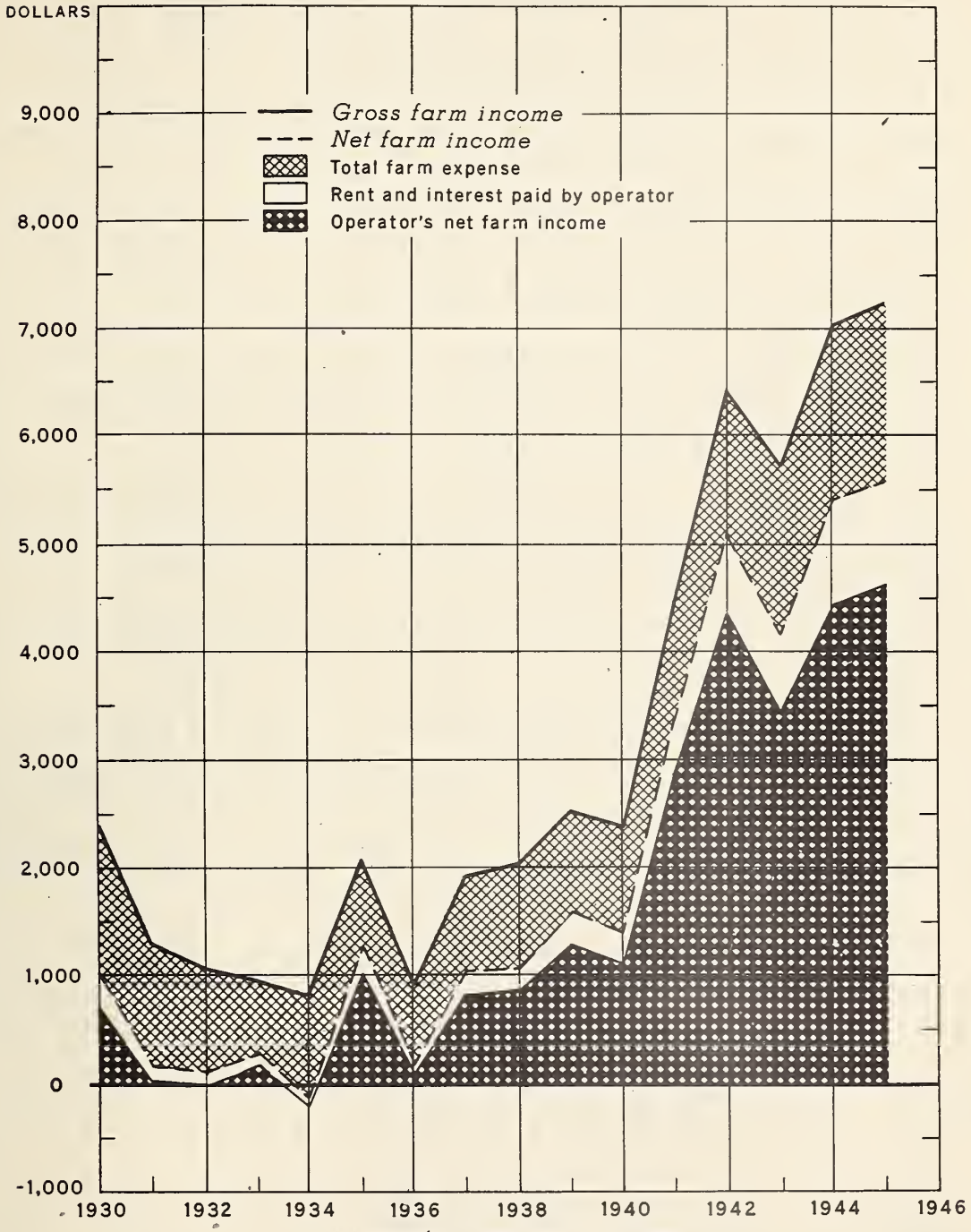
About one-third of the cultivated land (exclusive of summer fallow) is devoted to the production of wheat, one-third to other small grains, and one-third is divided equally between corn and hay.

Crops and livestock each contribute about 50 percent to total income. Wheat contributes between 25 and 35 percent—more than any other single enterprise. Feed demands are first made on corn and small grains other than wheat. If these requirements are not met, then wheat is fed. This accounts for the fact that more cash receipts are from wheat than from other grains, even though the acreage and production of other grains exceed those of wheat.

Operators of these farms generally keep about 20 head of cattle including a milking herd of about 8 cows each producing about 140 pounds of butterfat annually. Between 25 and 30 percent of the total cash receipts comes from this enterprise. The normal inventory of hogs is about 20 head, but the drought in this area during the middle 1930's practically liquidated this enterprise. The lack of feed (particularly grain) not only forced these farmers to buy considerable feeds and to reduce hog numbers, but also forced them to sell their hogs at light weights. Many hogs were sold as feeders in 1934 and 1935. Only 4 percent of the cash receipts came from hogs in 1935. In 1934 about 35 percent of the total cash expenditure was for feed. It was not until several years later that these farmers were able to rebuild their hog enterprises.

These factors, together with comparatively low prices, kept returns on these farms at an extremely low figure all during the 1930's. During the entire period from 1930 to 1940 returns to all labor on these farms averaged less than 13 cents per hour.

INCOME AND EXPENSE, TYPICAL FAMILY-OPERATED SPRING WHEAT-CORN - LIVESTOCK FARMS, NORTHERN PLAINS, 1930-45



DATA FOR 1945 ARE PRELIMINARY ESTIMATES

U.S. DEPARTMENT OF AGRICULTURE

NEG. 45680 BUREAU OF AGRICULTURAL ECONOMICS

FIGURE 17

Table 18.- Land use, livestock numbers and distribution of income and expense, typical family operated spring wheat-corn-livestock farms, Northern Plains 1930-45

Item	Unit	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945 1/
Total land in farm	Acres	378	375	372	369	366	362	366	378	387	392	393	394	399	401	401	408
Proportion of land in:																	
Cropland harvested	Percent	64	63	62	38	22	57	29	48	52	53	53	56	57	57	60	63
Idle, fallow and failure	do.	8	10	8	32	45	14	44	22	19	19	13	14	12	12	10	8
Pasture and other land	do.	28	27	30	30	33	29	27	30	29	28	34	30	31	31	30	29
Crops harvested:																	
Wheat	Acres	84	78	89	48	17	69	39	76	87	67	73	77	69	78	94	94
Corn (all purposes)	do.	45	47	43	41	32	34	25	30	33	36	35	37	39	40	42	44
Other small grain	do.	98	90	86	41	18	90	23	60	64	83	83	89	104	99	94	110
Hay	do.	32	39	30	31	26	36	35	40	39	38	34	38	36	37	37	37
Forage sorghum	do.	--	--	--	--	1	1	1	2	5	8	6	5	4	3	2	2
Crop yield (per harvested acre):																	
Wheat	Bushels	13.5	9.6	12.2	7.1	9.0	7.1	3.9	5.1	10.8	11.3	12.3	15.5	20.8	12.9	14.2	16.5
Corn	do.	16.8	13.4	14.7	9.9	3.1	14.9	4.3	19.7	15.9	22.3	21.0	22.4	27.8	25.2	33.0	22.8
All crops (index 1930-44=100)	Percent	118	83	107	57	64	81	33	70	100	114	107	136	174	119	137	131
Livestock on farm January 1:																	
All cattle	Number	17.2	17.6	18.3	20.1	20.9	14.7	17.5	16.2	17.8	18.1	18.6	21.0	22.7	24.3	26.7	27.1
Milk cows	do.	7.7	7.6	7.9	8.2	8.5	7.3	7.5	7.0	7.6	7.7	7.5	8.2	8.6	8.6	8.4	8.0
Hogs, all ages	do.	21.8	23.0	18.6	17.3	11.4	5.2	8.4	5.7	8.1	9.2	13.6	13.5	16.6	23.8	29.1	18.0
Poultry	do.	112	105	92	95	86	62	70	68	68	79	85	91	110	136	145	130
Workstock	do.	7.1	6.6	6.3	5.9	5.6	5.1	5.2	5.4	4.3	4.1	3.8	3.9	3.7	3.7	3.3	3.0
Farms with tractors	Percent	46	49	49	49	49	49	56	60	69	74	77	89	99	100	100	100
Proportion of cash receipts from:																	
Wheat	Percent	28	24	30	29	9	21	10	17	19	23	25	25	23	24	23	25
Other crops	do.	19	12	22	15	2	12	8	13	14	18	23	18	23	25	23	33
Hogs	do.	24	30	15	17	15	4	26	15	14	10	12	16	20	20	20	13
Cattle	do.	10	11	11	10	23	10	14	12	15	14	9	10	10	8	9	8
Other livsstock	do.	3	4	4	4	5	4	5	6	5	3	3	4	5	5	6	4
Livestock products	do.	16	19	18	15	20	24	19	24	18	14	16	17	14	14	15	13
Government payments	do.	—	--	--	10	26	25	18	13	15	18	12	10	5	4	4	4
Proportion of cash expenditures for:																	
Feed	do.	11	11	8	9	41	6	9	7	7	8	6	9	12	14	13	9
Labor	do.	9	10	8	4	1	5	2	3	3	3	3	5	7	16	15	19
Power and machinery	do.	43	38	45	47	30	56	52	55	55	54	60	58	51	43	44	44
General farm	do.	28	31	30	31	23	25	31	28	27	28	24	23	23	20	20	20
Miscellaneous	do.	9	10	9	9	5	8	6	7	8	7	7	5	7	7	8	8

1/ Preliminary.

Table 19.- Investment, income and related factors, typical family operated spring wheat-corn-livestock farms, Northern Plains, 1930-45

Item	Unit	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945 1/
Total land in farm	Acres	378	375	372	369	366	362	366	378	387	392	393	394	399	401	401	408
Proportion rented	Percent	60	60	60	60	60	60	62	63	64	66	67	66	63	61	61	60
Cropland harvested	Acres	241	234	230	141	81	205	105	180	202	206	207	220	227	230	243	259
Total labor used	Hours	4,242	4,227	4,059	3,760	3,363	3,527	3,323	3,468	3,517	3,596	3,591	3,788	3,970	4,187	4,066	4,039
Labor hired	do.	472	453	351	155	78	227	76	166	190	175	169	254	311	551	447	477
Total investment	Dollars	18,921	15,622	12,946	11,376	11,008	11,447	12,197	11,797	11,307	10,880	10,993	11,226	13,547	16,142	17,927	18,650
Land and buildings	do.	14,477	12,071	10,170	9,251	8,993	9,361	9,388	9,348	8,529	7,938	7,487	7,612	8,088	9,215	10,787	11,340
Machinery and equipment	do.	1,360	1,284	1,139	992	919	861	918	966	1,082	1,105	1,128	1,289	1,491	1,569	1,639	1,648
Livestock	do.	1,830	1,365	854	729	713	639	1,298	1,087	1,137	1,210	1,264	1,466	2,116	2,986	2,943	2,708
Crops on hand	do.	1,254	902	783	404	393	566	593	396	559	627	1,114	859	1,852	2,372	2,558	2,954
Cash receipts	do.	2,333	1,407	938	1,184	1,070	991	1,558	1,256	1,525	1,860	2,090	2,799	4,807	6,189	6,077	6,452
Cash expenditures	do.	1,304	977	730	533	832	796	760	994	1,021	1,004	1,130	1,247	1,346	1,628	1,597	1,673
Net cash farm income	do.	1,029	430	208	651	238	195	798	262	504	856	960	1,552	3,461	4,561	4,480	4,779
Value of perquisites	do.	376	305	230	218	236	273	288	293	277	258	249	326	396	442	467	501
Net change in inventory	do.	-401	-596	-322	-602	-621	775	-921	469	281	448	175	1,424	1,215	-851	456	278
Net farm income	do.	1,004	139	116	267	-147	1,243	165	1,024	1,062	1,562	1,384	3,302	5,072	4,152	5,403	5,558
Rent and interest paid by operator	Dollars	318	122	124	105	63	237	84	219	199	285	276	447	707	709	973	942
Operator's net farm income	do.	686	17	-8	162	-210	1,006	81	805	863	1,277	1,108	2,855	4,365	3,443	4,430	4,616
Operator's net cash farm income	do.	661	251	19	486	119	-86	679	19	279	546	657	1,075	2,723	3,820	3,473	3,803
Allocation of net farm income																	
Land and buildings (net rental)	Dollars	350	32	40	15	-35	253	14	239	217	352	342	612	1,049	1,084	1,520	1,495
Working assets (current interest rate)	do.	342	273	217	153	132	129	169	142	164	177	203	206	306	395	386	395
Total investment	do.	692	305	257	168	97	382	183	381	381	529	545	818	1,355	1,479	1,906	1,890
Operator and family labor	do.	312	-166	-141	99	-244	861	-18	643	681	1,033	839	2,484	3,717	2,673	3,497	3,668
Operator's labor	do.	-84	-482	-354	-76	-385	687	-186	443	471	807	607	2,168	3,223	2,015	2,740	2,802
All labor	do.	435	-70	-89	119	-233	898	-5	677	720	1,068	873	2,546	3,814	2,930	3,737	3,977
Percentage return to investment	Percent	3.7	2.0	2.0	1.5	.9	3.3	1.5	3.2	3.4	4.9	5.0	7.3	10.0	9.2	10.6	10.1
Return per hour to all labor used	Dollars	.10	-.02	-.02	.03	-.07	.25	0	.20	.20	.30	.24	.67	.96	.70	.92	.98
Index numbers (1930-44 = 100)																	
Gross farm income	Percent	85	46	37	35	29	73	32	69	73	90	85	159	230	206	251	259
Operator's net farm income	do.	49	1	-1	12	-15	72	6	58	62	92	80	205	314	247	318	332
Total production	do.	121	98	107	62	52	86	40	76	92	109	98	127	162	121	149	143
Production per hour of man labor	do.	109	89	101	63	60	93	46	84	100	116	104	128	155	111	141	135
Operating expense per unit of production	do.	100	101	75	107	178	83	183	104	88	71	83	72	67	103	85	92
Total cost per unit of production	do.	100	90	64	92	127	80	165	101	82	74	83	81	88	141	132	148
Total input per unit of production	do.	84	98	84	138	153	90	218	107	89	75	86	68	59	84	67	70
Power and machinery used (quantity)	do.	120	115	105	95	86	81	83	85	89	93	96	106	114	115	117	115
Prices received for products sold	do.	98	66	49	58	59	95	101	114	85	83	84	116	142	174	176	187
Prices paid including wages to hired labor	do.	116	103	90	82	90	91	93	97	97	95	94	98	108	121	125	131

1/ Preliminary.

NOTE: See text for explanation of terms.

Location and general characteristics of typical family-operated spring wheat-small grain-livestock farms, Northern Plains

These farms are situated in the Black Prairie lands of northeast and north-central North Dakota. In 1930 they averaged about 475 acres. During the depression and droughts that followed some farm land was abandoned, and the average size of farm was reduced by about 40 acres. Through the influence of better cropping weather, more appropriate farm equipment, and higher prices, during the last few years the average size of these farms increased and in 1945 was 525 acres, 85 acres larger than 10 years earlier. Approximately 70 percent of the land is tilled; the remainder is mostly open pasture. Between 40 and 50 percent of the harvested acreage is devoted to wheat. From 40 to 50 percent of cash farm receipts, (exclusive of Government payments which during the droughts contributed about 25 percent of the cash farm income) comes from wheat. About 10 acres of corn and 80 acres of small grains other than wheat are normally produced. All the corn and considerable of the small grains (mostly oats and barley) are fed to the livestock.

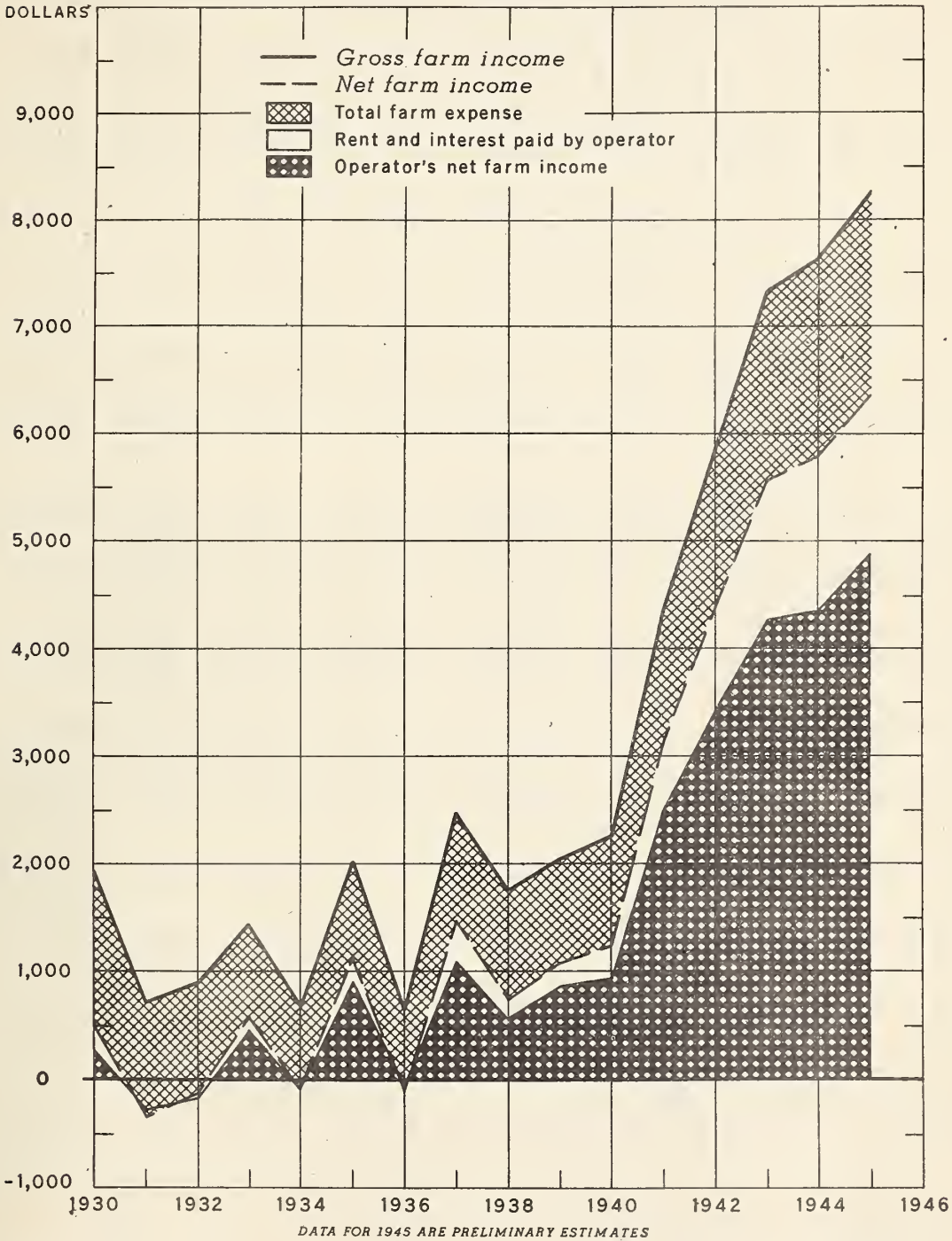
Operators of these farms have never kept many hogs. Total production per farm has ranged from 736 pounds in 1935 to 4,150 pounds in 1944. The average has been about 1,800. The normal inventory of cattle is about 18 head on a farm of which 7 or 8 milk-and-beef type cows are milked. This limited dairy enterprise has yielded a small but comparatively constant and certain income. About 35 percent of total cash receipts comes from the livestock enterprises.

In 1930 tractors were operated on about half of these farms. Because of the droughts and depression in the early 1930's and the resulting low incomes, purchases of tractors and other power equipment were retarded. With improved conditions such purchases were increased. By 1944 practically all of the farms were operated with tractors. About 12 percent of the total farm investment is in machinery and equipment; 75 percent is in land and buildings and 10 percent is in livestock.

The total amount of labor used each year on these farms has varied between 5,000 and 4,000 hours. Part of this variation has been due to droughts and crop failures and part to labor saving through mechanization. A little more than 5,000 hours of labor were used in 1934 and in 1936. Less than 4 percent of this was hired. In 1932 and in 1945 about 4000 hours of labor were used but total production in 1945 was 50 percent above that of 1932. Each year about 16 percent was hired labor.

Income and costs have varied as much as the amount of labor used. In 1940-44 operator's net farm income averaged $5,100 compared with $57 in 1930-34. Cost of production including price change in 1930-34, however, was 5 percent above that of 1940-44. Excluding price change, cost of production in 1930-34 was 115 percent above 1940-44.

INCOME AND EXPENSE, TYPICAL FAMILY-OPERATED SPRING WHEAT-SMALL GRAIN-LIVESTOCK FARMS, NORTHERN PLAINS, 1930-45



DATA FOR 1945 ARE PRELIMINARY ESTIMATES

U. S. DEPARTMENT OF AGRICULTURE NEG. 45681 BUREAU OF AGRICULTURAL ECONOMICS

FIGURE 18

Table 20.- Land use, livestock numbers and distribution of income and expense, typical family operated spring wheat-small grain-livestock farms, Northern Plains 1930-45

Item	Unit	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945 1/
Total land in farm	Acres	473	466	459	453	446	440	448	457	466	475	485	493	501	504	518	525
Proportion of land in:																	
Cropland harvested	Percent	58	46	57	52	28	48	29	45	48	43	44	47	48	52	55	57
Idle, fallow and failure	do.	11	25	13	16	40	21	46	22	18	24	22	20	19	16	15	13
Pasture and other land	do.	31	29	30	32	32	31	26	33	34	33	34	33	33	32	30	30
Crops harvested:																	
Wheat	Acres	141	104	148	140	66	105	74	128	132	110	118	123	112	130	156	155
Corn (all purposes)	do.	8	8	12	13	14	12	7	9	9	9	9	10	10	9	10	11
Other small grain	do.	110	77	81	63	28	87	27	60	67	69	71	83	105	114	108	119
Hay	do.	40	52	47	48	37	37	47	41	44	40	43	49	46	47	47	48
Crop yield (per harvested acre):																	
Wheat	Bushels	11.7	6.1	9.7	7.6	5.4	7.9	4.4	11.7	10.2	10.7	11.3	16.5	20.6	18.8	16.3	17.3
Barley	do.	17.8	8.5	14.6	10.2	7.1	17.4	6.4	15.3	15.6	14.6	14.9	21.9	28.9	24.2	21.5	23.0
All crops (index 1930-44=100)	Percent	107	61	91	72	46	88	35	99	90	94	101	139	173	159	145	154
Livestock on farm January 1:																	
All cattle	Number	15.4	16.2	17.5	19.3	20.4	14.1	15.6	15.4	16.3	16.6	17.8	19.2	21.3	22.5	24.3	24.8
Milk cows	do.	6.9	7.3	7.8	8.1	8.3	7.3	7.4	6.9	6.8	6.8	7.4	8.1	8.6	8.9	9.0	8.7
Hogs, all ages	do.	7.0	7.2	7.0	6.0	4.8	2.3	3.4	2.7	3.4	3.8	4.9	4.5	6.5	10.7	12.5	7.8
Poultry	do.	72	68	61	63	59	42	47	68	43	50	56	59	71	87	94	85
Workstock	do.	7.6	7.3	6.3	6.1	5.6	5.3	5.0	4.6	4.3	4.3	4.2	4.1	4.1	4.0	3.7	3.5
Farms with tractors	Percent	49	50	51	51	50	49	54	57	63	68	73	81	92	97	100	100
Proportion of cash receipts from:																	
Wheat	Percent	51	40	45	51	31	38	14	46	42	37	45	42	44	45	46	48
Other crops	do.	14	6	2	6	0	8	13	4	9	3	4	8	16	21	22	22
Hogs	do.	7	10	6	3	4	2	9	3	4	4	4	5	6	7	6	4
Cattle	do.	9	13	16	7	19	9	15	12	11	10	10	10	9	6	6	7
Other livestock	do.	3	7	6	3	5	3	2	5	5	4	3	4	4	4	4	3
Livestock products	do.	16	24	25	14	18	19	23	19	15	15	17	18	14	12	12	12
Government payments	do.	—	—	—	16	23	21	24	11	14	27	17	13	7	5	4	4
Proportion of cash expenditures for:																	
Feed	do.	6	8	10	5	13	5	6	6	4	6	4	4	7	7	6	6
Labor	do.	14	11	11	10	4	8	2	7	6	4	6	9	8	17	21	22
Power and machinery	do.	45	39	44	45	45	56	54	56	56	57	58	60	58	51	47	47
General farm	do.	26	32	27	30	31	23	31	24	26	26	26	21	21	18	18	18
Miscellaneous	do.	9	10	8	10	7	8	7	7	8	7	6	6	6	7	8	7

1/ Preliminary.

Table 21.- Investment, income and related factors, typical family operated spring wheat-small grain-livestock farms, Northern Plains, 1930-45

Item	Unit	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945 1/
Total land in farm	Acres	473	466	459	453	446	440	448	457	466	475	485	493	501	504	518	525
Proportion rented	Percent	60	60	60	60	60	60	62	63	64	66	67	66	63	61	61	60
Cropland harvested	Acres	274	214	260	235	127	214	130	207	223	203	211	232	239	264	288	297
Total labor used	Hours	3,977	3,846	4,033	3,826	3,371	3,473	3,164	3,390	3,325	3,229	3,325	3,490	3,667	3,867	3,865	3,763
Labor hired	do.	681	490	644	524	140	437	96	356	342	253	288	398	383	620	658	623
Total investment	Dollars	17,369	14,531	12,028	11,408	11,098	11,144	11,414	11,004	11,019	10,045	9,898	10,065	12,345	14,646	17,056	18,223
Land and buildings	do.	13,372	11,296	9,625	8,992	8,804	8,976	8,637	8,386	7,896	7,192	6,703	6,734	7,184	8,022	9,187	10,500
Machinery and equipment	do.	1,538	1,419	1,248	1,122	1,060	1,041	1,109	1,162	1,243	1,260	1,301	1,408	1,572	1,634	1,662	1,685
Livestock	do.	1,468	1,093	774	682	672	598	1,060	951	1,084	1,026	1,125	1,259	1,696	2,418	2,363	2,234
Crops on hand	do.	991	723	381	412	562	529	608	505	886	567	769	664	1,893	2,572	3,840	3,804
Cash receipts	do.	1,846	941	601	1,260	1,041	1,154	1,152	1,473	1,601	1,513	1,925	2,576	4,388	6,533	7,216	7,454
Cash expenditures	do.	1,322	844	776	659	661	879	773	1,080	1,069	1,005	1,084	1,303	1,466	1,752	1,830	1,862
Net cash farm income	do.	524	97	-175	601	380	275	379	393	532	508	841	1,273	2,922	4,781	5,386	5,592
Value of perquisites	do.	363	282	232	225	253	293	291	321	287	255	277	341	406	452	465	483
Net change in inventory	do.	-396	-710	-183	-249	-707	545	-759	761	-81	325	114	1,540	1,070	333	-58	288
Net farm income	do.	491	-331	-126	577	-74	1,113	-89	1,475	738	1,088	1,232	3,154	4,398	5,566	5,793	6,363
Rent and interest paid by operator	Dollars	238	-58	39	131	1	211	-68	385	184	233	290	656	960	1,292	1,439	1,477
Operator's net farm income	do.	253	-273	-165	446	-75	902	-21	1,090	554	855	942	2,498	3,438	4,274	4,354	4,886
Operator's net cash farm income	do.	230	90	-281	409	329	20	414	-20	320	245	541	585	1,929	3,453	3,909	4,075
Allocation of net farm income																	
Land and buildings (net rental)	Dollars	225	-255	-82	85	-114	230	-149	515	202	282	338	930	1,453	2,043	2,286	2,389
Working assets (current interest rate)	do.	308	249	187	160	149	134	167	152	190	171	185	190	289	378	425	417
Total investment	do.	533	-6	105	245	35	364	18	667	392	453	523	1,120	1,742	2,421	2,711	2,806
Operator and family labor	do.	-42	-325	-231	332	-109	749	-107	808	346	635	709	2,034	2,656	3,145	3,082	3,557
Operator's labor	do.	-318	-530	-392	194	-248	620	-246	658	205	497	551	1,821	2,276	2,646	2,530	2,939
All labor	do.	146	-232	-142	398	-88	824	-90	883	430	684	771	2,138	2,783	3,433	3,453	3,977
Percentage return to investment	Percent	3.1	-.1	.9	2.2	.3	3.3	.2	6.1	3.6	4.5	5.3	11.1	14.1	16.5	15.9	15.4
Return per hour to all labor used	Dollars	.04	-.06	-.04	.10	-.03	.24	-.03	.26	.13	.21	.23	.61	.76	.89	.89	1.06
Index numbers (1930-44 = 100)																	
Gross farm income	Percent	69	25	32	50	24	72	23	88	63	73	80	156	210	262	273	295
Operator's net farm income	do.	20	-21	+13	35	-6	71	-2	86	44	67	74	196	270	336	343	384
Total production	do.	118	58	106	74	37	91	30	95	91	77	95	144	164	159	161	168
Production per hour of man labor	do.	108	54	95	70	40	95	34	102	100	86	104	150	162	149	151	162
Operating expense per unit of production	do.	93	158	71	90	192	73	236	75	80	88	75	57	61	75	76	75
Total cost per unit of production	do.	89	123	54	79	154	69	200	83	74	90	77	71	89	119	129	133
Total input per unit of production	do.	73	156	73	104	214	75	276	73	77	88	74	51	52	57	57	53
Power and machinery used (quantity)	do.	122	114	104	96	88	83	88	88	91	95	99	104	109	109	108	108
Prices received for products sold	do.	92	66	46	67	71	94	100	116	79	80	87	115	134	169	184	190
Prices paid including wages to hired labor	do.	118	102	87	83	90	91	92	96	97	94	95	99	105	120	131	137

1/ Preliminary.

NOTE: See text for explanation of terms.

Location and general characteristics of typical family-operated spring wheat-roughage-livestock farms, Northern Plains

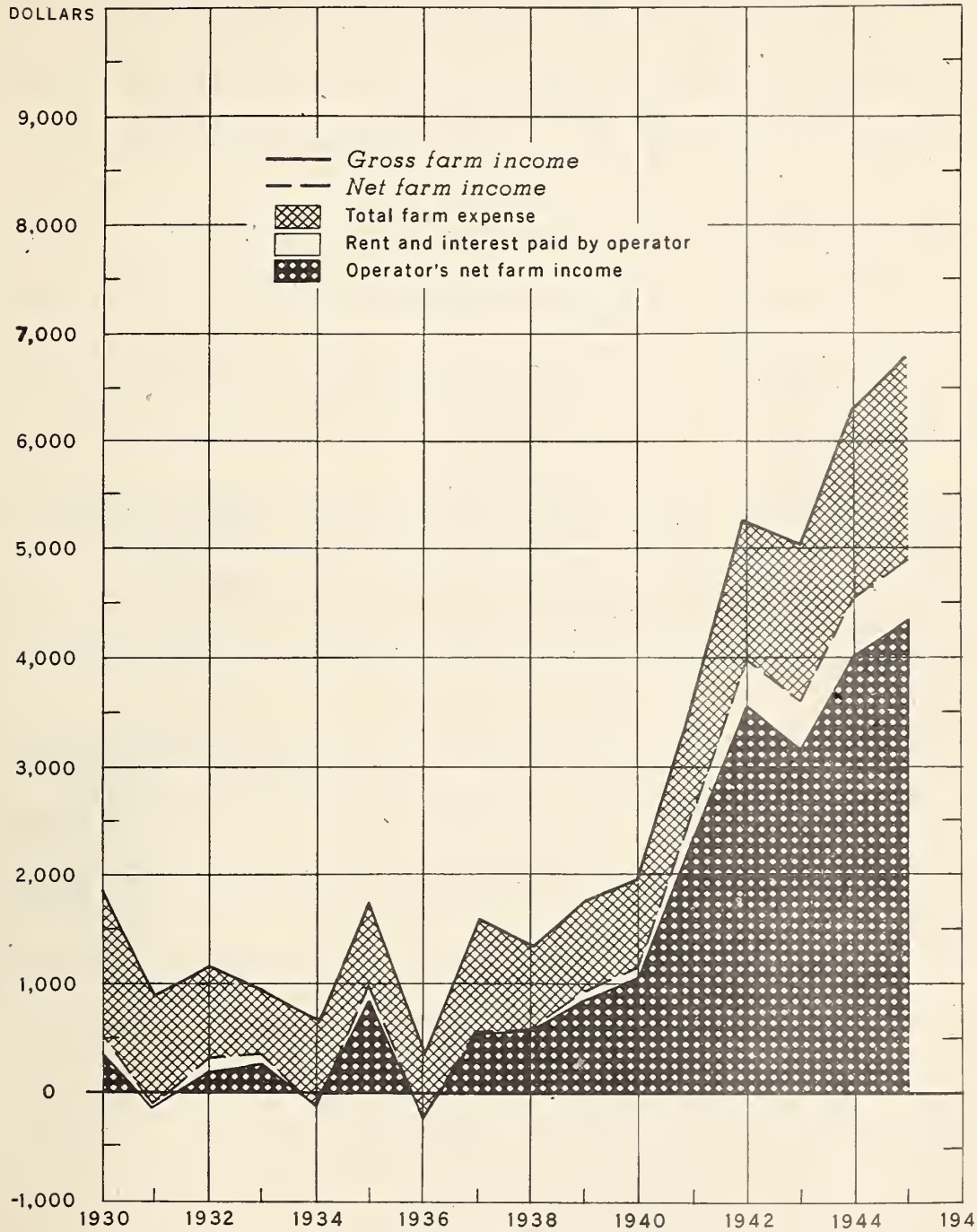
These farms are located in the northeastern Missouri Plateau in south-central North Dakota and north-central South Dakota. This is one of the more hazardous farming areas in the Northern Plains. Abandonment of parcels of land and of entire farms was prevalent among these farms during the early 1930's and the average size of farm declined from 575 acres in 1930 to 546 acres in 1935. Soon after 1935 the average size of farm was gradually increased. By 1945 it was 650 acres. This meant an increase of more than 100 acres over 1935.

The topography of these farms is considerably more uneven than that of the farms in the plains immediately to the east. More than half of the farm land is in pasture. Hay and pasture together utilize about two-thirds of the farm land. Wheat occupies about 40 percent of the harvested acreage, corn and small grains (other than wheat) 35 percent, and hay about 25 percent.

The major livestock enterprise is naturally cattle to consume the roughages grown on the farm. Between 25 and 30 head of cattle are usually kept. About 10 of these animals are milked, each producing about 140 pounds of butterfat annually. Approximately two-fifths of the cash receipts are obtained from the cattle enterprise and around half of this is from the sale of livestock products.

The effects of the droughts and depression were more drastic and prolonged on these farms than on any others under consideration. Net cash farm income for the 10-year period 1931-40 averaged only $215, and much of this is attributed to a liquidation of livestock (because of feed shortages) and to Government payments. About 24 percent of the cash receipts was from Government payments during the first 8 years (1933-40) of the Agricultural Adjustment program. About 40 percent of total cash receipts is normally from wheat, but in 1937 no wheat was sold. A little over 4 percent of cash receipts was obtained from wheat during the 5 year period (1934-38). Wheat yields during this period averaged 3.3 bushels which is about 30 percent of normal. About 14 percent of cash receipts are normally obtained from the cattle enterprise exclusive of livestock products, but through liquidation of livestock (because of inadequate feed supplies during the period 1934-38) money from cattle sales made up 24 percent of the total cash receipts. Feed purchases, which generally make up about 8 percent of total cash expenditures, amounted to more than 20 percent during 1934-38 and were more than 35 percent in 1934 and 1937. Operator's net farm income for the period 1931-38 averaged only $208 but it was $4,000 in 1944.

INCOME AND EXPENSE, TYPICAL FAMILY-OPERATED SPRING WHEAT-ROUGHAGE-LIVESTOCK FARMS, NORTHERN PLAINS, 1930-45



DATA FOR 1945 ARE PRELIMINARY ESTIMATES

U.S. DEPARTMENT OF AGRICULTURE NEG. 45682 BUREAU OF AGRICULTURAL ECONOMICS

FIGURE 19

Table 22.- Land use, livestock numbers and distribution of income and expense, typical family operated spring wheat-roughage-livestock farms, Northern Plains 1930-45

Item	Unit	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945 1/
Total land in farm	Acres	575	569	563	557	551	546	551	558	570	584	589	612	631	636	644	650
Proportion of land in:																	
Cropland harvested	Percent	45	41	46	33	5	34	2	20	23	28	33	32	34	36	39	41
Idle, fallow and failure	do.	7	11	7	20	44	16	49	29	24	19	14	14	12	10	10	7
Pasture and other land	do.	48	48	47	47	51	50	49	51	53	53	53	54	54	54	51	52
Crops harvested:																	
Wheat	Acres	140	119	144	104	10	88	3	55	68	82	103	104	94	118	136	141
Corn (all purposes)	do.	24	25	26	25	13	21	3	10	15	19	19	16	19	19	21	23
Other small grain	do.	91	78	79	44	3	68	0	29	32	44	53	59	87	77	80	92
Hay	do.	61	72	73	49	39	53	40	65	60	56	58	44	58	63	64	66
Forage sorghum	do.	--	--	—	—	--	--	—	1	3	5	6	6	4	2	3	3
Crop yield (per harvested acre):																	
Wheat	Bushels	10.2	6.6	11.8	4.1	2.2	8.5	1.4	3.1	4.4	7.6	8.8	13.1	17.9	13.5	13.9	14.2
All crops (index 1930-44=100)	Percent	121	81	142	53	26	86	12	42	55	96	102	158	210	156	160	161
Livestock on farm January 1:																	
All cattle	Number	22.8	24.8	27.3	29.3	30.4	15.9	18.2	17.5	18.0	19.3	22.0	24.8	27.6	31.0	35.4	36.0
Milk cows	do.	9.2	9.2	10.3	11.3	11.8	9.5	9.2	9.1	8.9	8.6	9.4	9.9	10.5	11.4	11.6	11.3
Hogs, all ages	do.	12.5	15.8	15.1	12.0	7.9	3.3	5.0	4.0	4.3	4.4	6.0	6.0	7.6	13.8	17.6	10.9
Poultry	do.	88	81	88	72	64	42	47	46	45	53	60	62	73	91	98	88
Workstock	do.	8.3	8.1	7.8	7.2	7.1	6.4	6.0	5.9	5.6	5.6	5.7	5.7	5.9	5.8	5.9	5.5
Farms with tractors	Percent	50	51	51	52	51	51	52	56	58	61	61	66	73	77	84	90
Proportion of cash receipts from:																	
Wheat	Percent	42	32	38	37	2	10	6	-0	4	13	28	31	38	38	41	40
Other crops	do.	10	5	5	3	0	5	2	-0	0	0	2	6	10	14	8	15
Hogs	do.	12	19	12	10	9	2	18	16	13	9	6	8	8	12	9	8
Cattle	do.	13	14	16	13	36	15	19	23	24	17	17	14	12	8	13	13
Other livestock	do.	2	3	6	3	5	3	4	5	5	4	4	4	5	5	4	4
Livestock products	do.	21	27	23	19	23	32	26	35	30	26	25	25	20	18	21	16
Government payments	do.	—	—	—	15	25	33	25	21	24	31	18	12	7	5	4	4
Proportion of cash expenditures for:																	
Feed	do.	9	12	7	9	42	9	9	39	17	12	6	8	9	10	8	7
Labor	do.	15	14	13	7	2	10	1	2	2	3	5	5	14	21	31	34
Power and machinery	do.	46	41	49	50	31	51	57	36	49	51	56	58	52	45	39	38
General farm	do.	25	26	24	26	22	23	29	19	26	28	26	23	19	18	15	14
Miscellaneous	do.	5	7	7	8	3	7	4	4	6	6	7	6	6	6	7	7

1/ Preliminary.

Table 23.-- Investment, income and related factors, typical family operated spring wheat-roughage-livestock farms, Northern Plains, 1930-45

Item	Unit	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945 1/
Total land in farm	Acres	575	569	563	557	551	546	551	558	570	584	589	612	631	636	644	650
Proportion rented	Percent	56	56	56	57	57	57	57	57	58	60	61	61	58	54	49	48
Cropland harvested	Acres	261	235	259	182	30	188	9	110	132	162	194	198	215	226	250	270
Total labor used	Hours	4,376	4,377	4,599	4,228	3,606	4,101	2,982	3,274	3,273	3,395	3,701	3,747	4,103	4,391	4,497	4,448
Labor hired	do.	648	580	699	353	106	421	56	97	101	141	242	241	534	702	1,032	1,008
Total investment	Dollars	17,413	14,325	11,776	10,583	9,992	9,884	10,376	9,226	8,674	7,897	7,634	8,042	10,172	13,199	15,027	16,946
Land and buildings	do.	12,909	10,822	9,115	8,216	7,912	8,119	7,747	7,159	6,298	5,466	4,771	4,890	5,534	6,653	7,896	9,269
Machinery and equipment	do.	1,307	1,222	1,059	945	885	864	849	884	826	812	862	958	1,097	1,155	1,263	1,331
Livestock	do.	2,035	1,559	1,076	902	897	714	1,308	1,125	1,162	1,254	1,423	1,598	2,141	3,201	3,309	3,123
Crops on hand	do.	1,162	724	536	520	298	207	472	58	288	265	558	596	1,400	2,190	2,559	3,223
Cash receipts	do.	1,946	1,075	891	1,257	1,170	836	1,165	947	935	1,027	1,467	2,116	3,363	4,994	5,206	6,151
Cash expenditures	do.	1,201	850	755	543	746	690	602	994	760	754	878	1,045	1,271	1,520	1,811	1,856
Net cash farm income	do.	745	225	136	714	424	146	563	-47	175	273	589	1,071	2,092	3,474	3,395	4,295
Value of perquisites	do.	343	267	226	213	237	267	278	288	259	233	253	307	373	431	470	497
Net change in inventory	do.	-523	-597	-102	-624	-810	572	-1,096	293	130	432	281	1,204	1,504	-323	659	74
Net farm income	do.	565	-105	260	303	-149	985	-255	534	564	938	1,123	2,582	3,969	3,582	4,524	4,866
Rent and interest paid by operator	Dollars	174	67	109	74	6	148	13	29	24	97	112	245	415	442	523	546
Operator's net farm income	do.	391	-172	151	229	-155	837	-268	505	540	841	1,011	2,337	3,554	3,140	4,001	4,320
Operator's net cash farm income	do.	541	119	-14	602	384	-34	520	-99	123	146	456	805	1,654	3,009	2,849	3,725
Allocation of net farm income																	
Land and buildings (net rental)	Dollars	160	-23	56	10	-103	145	-82	-48	-45	89	119	341	646	739	970	1,039
Working assets (current interest rate)	do.	347	270	208	170	135	111	158	120	140	146	166	180	260	373	385	415
Total investment	do.	507	247	264	180	32	256	76	72	95	235	285	521	906	1,112	1,355	1,454
Operator and family labor	do.	58	-352	-4	123	-181	729	-331	462	469	703	838	2,061	3,063	2,470	3,169	3,412
Operator's labor	do.	-332	-673	-245	-87	-352	491	-444	286	290	510	599	1,752	2,601	1,786	2,499	2,628
All labor	do.	232	-232	97	169	-166	799	-321	481	489	731	886	2,122	3,234	2,782	3,726	4,051
Percentage return to investment	Percent	2.9	1.7	2.2	1.7	.3	2.6	.7	.8	1.1	3.0	3.7	6.5	8.9	8.4	9.0	8.6
Return per hour to all labor used	Dollars	.05	-.05	.02	.04	-.05	.19	-.11	.15	.15	.22	.24	.57	.79	.63	.83	.91
Index numbers (1930-44 = 100)																	
Gross farm income	Percent	61	39	51	42	30	76	15	67	58	75	85	155	229	221	276	295
Operator's net farm income	do.	35	-15	13	20	-14	74	-24	45	48	74	90	207	315	278	354	382
Total production	do.	128	95	148	66	52	88	30	62	62	82	95	125	171	136	160	171
Production per hour of man labor	do.	118	88	129	63	57	85	40	76	77	97	103	134	167	124	142	155
Operating expense per unit of production	do.	88	94	51	99	144	74	269	125	105	80	74	63	59	86	89	86
Total cost per unit of production	do.	89	91	46	96	111	76	251	100	96	81	76	71	75	121	120	122
Total input per unit of production	do.	74	96	57	127	142	82	306	105	107	83	77	60	51	70	63	59
Power and machinery used (quantity)	do.	130	123	113	103	95	91	87	88	89	90	89	93	100	101	108	111
Prices received for products sold	do.	96	68	48	59	58	96	101	110	92	85	92	117	135	167	176	185
Prices paid including wages to hired labor	do.	114	99	86	79	97	89	90	101	93	93	95	98	106	122	136	147

1/ Preliminary.

NOTE: See text for explanation of terms.

Location and general characteristics of typical family-operated winter-wheat farms, Southern Plains

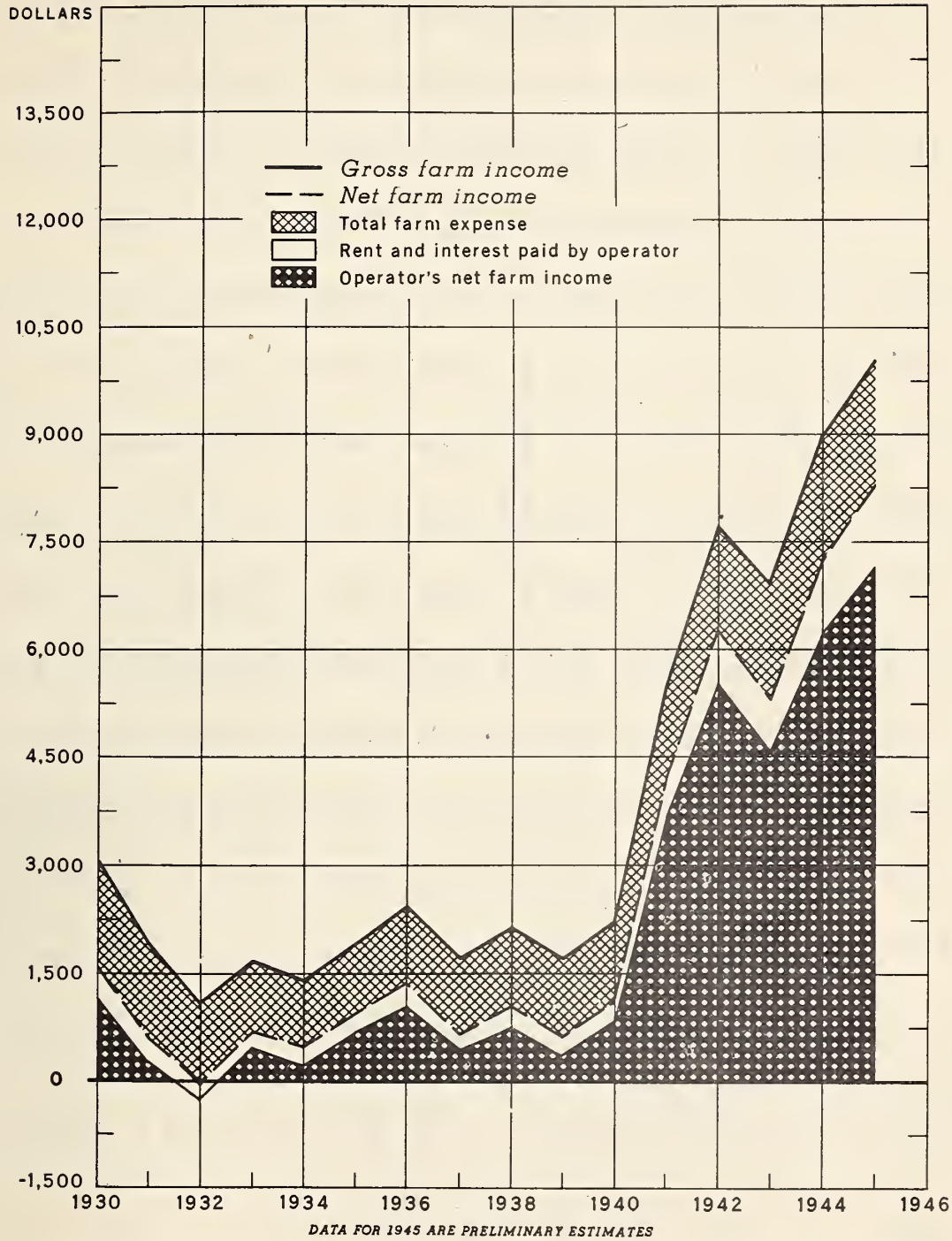
Large-scale methods of production and a high degree of mechanization characterize these winter-wheat farms that stretch some 450 miles through the Platte-Republican High Plains of southwestern Nebraska and western Kansas and the northern portion of the Canadian-Cimaron High Plains in southwestern Kansas (fig. 1). Because these farms are comparatively large and level and have a high proportion of grain crops they encourage the use of mechanical power and equipment. In 1945 these farms averaged about 600 acres in size. About 65 percent of the farm land is cultivated; the remainder is in open pasture. About 200 acres of wheat are normally grown. This is the most important crop in terms of acreage and income; about 60 percent of the income is from the wheat enterprise. Some corn, barley, oats, grain sorghum, and hay are produced, but with the exception of grain sorghum these crops are mostly fed.

Cattle is the most important livestock enterprise (20 to 25 head are usually kept), and because this has been a rather hazardous cropping area the cattle enterprise has been an important source of income. Around 20 percent of the cash receipts comes from the livestock enterprise. Before the droughts in the early 1930's about 3,000 pounds of hogs were sold annually. Droughts and liquidation of hog numbers reduced sales by half, and it was not until 1942 that sales of hogs reached the proportions that prevailed before the drought.

Because this is a rather hazardous area, subjected to frequent harsh winds that impair crop growth, and at times lacking sufficient precipitation to produce a crop, the operators of these farms have had varying experiences. Although they plant and hope to harvest about 200 acres of wheat each year they are frequently disappointed. In 1935 they harvested only 33 percent of the acreage of wheat planted. The yield was one of the lowest in years—they produced only 566 bushels of wheat per farm. On the other hand, the acreage seeded for 1942 was one of the lowest in the entire 16-year period yet the harvest was nearly the largest on record. The yield per acre was the highest and the abandonment was the lowest on record, and the harvest was nearly 11 times that of 1935.

Prices have naturally influenced the economic well-being of these farmers. In 1932 they received only 32 cents a bushel for their wheat and 20 cents a bushel for their corn; other prices were also low. In 1945, a record production year, they received $1.45 a bushel for their wheat and comparable prices for other commodities. Returns per hour to all labor in 1945 was $2.05. In 1932, on the other hand, the farms suffered an actual loss.

INCOME AND EXPENSE, TYPICAL FAMILY-OPERATED WINTER WHEAT FARMS, SOUTHERN PLAINS, 1930-45



DATA FOR 1945 ARE PRELIMINARY ESTIMATES

U.S. DEPARTMENT OF AGRICULTURE NEG. 45683 BUREAU OF AGRICULTURAL ECONOMICS

FIGURE 20

Table 24.- Land use, livestock numbers and distribution of income and expense, typical family operated winter wheat farms, Southern Plains 1930-44

Item	Unit	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945 1/
Total land in farm	Acres	532	537	541	543	544	545	547	555	560	565	571	578	585	590	595	600
Proportion of land in:																	
Cropland harvested	Percent	59	58	56	49	40	31	46	40	45	29	37	45	45	43	45	48
Idle, fallow, and failure	do.	10	11	12	20	28	35	18	25	20	36	30	21	20	22	20	17
Pasture and other land	do.	31	31	32	31	32	34	36	35	35	35	33	34	35	35	35	35
Crops harvested:																	
Wheat	Acres	218.0	204.0	146.0	98.0	125.0	60.0	153.0	161.0	190.0	96.0	103.0	162.0	176.0	165.0	167.0	198.0
Grain sorghum	do.	13.8	10.7	23.8	30.4	14.7	26.2	15.3	17.8	22.4	27.7	44.5	30.6	18.1	22.4	33.3	31.2
Hay	do.	8.5	8.6	9.2	8.6	8.8	11.4	11.5	8.4	6.1	6.3	6.3	3.4	6.4	5.3	6.6	6.0
Forage sorghum	do.	2.7	3.2	3.8	5.4	4.4	5.4	3.8	4.4	7.3	8.5	12.6	12.7	11.7	13.0	13.1	10.8
Other crops	do.	71.3	84.9	121.8	123.3	63.2	65.4	70.6	28.9	27.5	27.2	42.8	52.0	51.5	49.0	29.0	40.2
Crop yield (per harvested acre):																	
Wheat	Bushels	15.1	17.1	11.1	7.0	7.3	6.1	9.1	6.1	9.9	7.3	10.7	18.2	22.0	15.7	17.9	19.7
Grain sorghum	do.	16.5	18.5	10.3	10.5	4.8	6.6	5.9	6.7	9.4	6.5	9.6	18.7	15.2	12.3	32.4	21.7
All crops (index 1930-44=100)	Percent	128	144	91	65	51	52	66	49	83	59	86	154	171	123	178	170
Livestock on farm January 1:																	
All cattle	Number	19.3	22.6	23.8	24.6	28.3	21.3	19.1	20.2	17.2	17.5	18.8	22.9	28.6	34.0	33.1	36.6
Milk cows	do.	4.1	4.5	3.7	3.9	4.7	3.9	3.6	5.7	5.5	5.5	5.6	5.4	6.0	6.5	6.6	6.2
Hogs, all ages	do.	11.3	12.9	17.8	14.3	12.2	5.1	4.6	5.9	4.7	6.0	8.2	6.8	11.8	19.2	19.2	7.6
Poultry	do.	115	112	103	100	102	83	71	96	84	96	108	94	126	155	160	134
Workstock	do.	4.2	3.7	3.6	3.5	3.4	3.1	2.7	2.7	2.4	2.1	2.0	1.9	1.9	1.9	1.8	1.7
Farms with tractors	Percent	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Proportion of cash receipts from:																	
Wheat	Percent	63	52	52	29	32	15	48	28	48	25	31	53	56	54	50	53
Grain sorghum	do.	5	4	5	7	2	0	3	0	0	0	4	7	3	3	20	13
Other crops	do.	9	9	7	8	1	0	1	0	0	0	0	4	4	0	1	8
Hogs	do.	6	7	8	6	4	5	5	9	5	6	6	4	8	10	8	2
Cattle	do.	7	15	17	9	23	26	10	29	16	17	11	6	7	15	9	14
Other livestock	do.	2	3	3	1	1	3	1	2	2	2	2	2	2	2	1	1
Livestock products	do.	8	10	8	8	7	12	6	17	13	13	15	10	10	10	9	8
Government payments	do.	--	--	--	32	30	39	26	15	16	37	31	14	10	6	2	1
Proportion of cash expenditures for:																	
Feed	Percent	2	1	1	1	2	2	2	2	2	2	2	3	4	5	5	4
Labor	do.	2	2	3	3	0	0	0	0	0	0	1	0	1	7	9	6
Power and machinery	do.	66	62	64	64	65	66	72	72	73	70	71	73	70	61	65	70
General farm	do.	25	28	27	27	25	25	22	23	21	23	23	21	18	18	15	15
Miscellaneous	do.	5	7	5	5	8	7	4	3	4	5	3	3	7	9	6	5

1/ Preliminary.

Table 25.- Investment, income and related factors, typical family operated winter wheat farms, Southern Plains, 1930-45

Item	Unit	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945 1/
Total land in farm	Acres	532	537	541	543	544	545	547	555	560	565	571	578	585	590	595	600
Proportion rented	Percent	56	56	56	56	56	56	56	56	57	57	57	57	57	57	57	57
Cropland harvested	Acres	314	312	305	266	216	168	254	220	253	166	209	261	264	255	266	286
Total labor used	Hours	3,082	3,172	3,314	3,259	2,977	2,742	2,728	2,745	2,699	2,586	2,742	2,539	2,871	3,142	3,152	3,055
Labor hired	do.	91	113	190	157	1	4	3		18		38	20	58	218	275	209
Total investment	Dollars	26,636	23,983	20,652	16,045	16,710	17,049	17,311	18,357	17,900	17,184	16,742	17,378	20,375	24,646	26,060	29,855
Land and buildings	do.	21,812	19,869	17,312	13,575	14,144	14,715	14,769	15,540	15,120	14,125	13,704	13,872	14,625	16,520	19,040	22,200
Machinery and equipment	do.	2,164	2,059	1,801	1,534	1,397	1,362	1,393	1,521	1,701	1,789	1,619	1,887	2,174	2,427	2,546	2,720
Livestock	do.	1,380	1,077	760	640	664	586	855	881	789	893	943	1,141	1,804	2,889	2,554	2,532
Crops on hand	do.	1,280	978	779	296	505	386	294	415	290	377	276	478	1,772	2,810	1,920	2,403
Cash receipts	do.	3,121	1,920	1,350	1,486	2,055	1,525	2,212	1,608	1,718	1,586	1,616	3,457	5,523	8,024	8,042	9,400
Cash expenditures	do.	1,402	1,099	853	791	849	975	1,132	1,222	1,230	1,161	1,146	1,485	1,605	1,648	1,855	1,956
Net cash farm income	do.	1,719	821	497	695	1,206	550	1,080	386	488	425	470	1,972	3,918	6,376	6,187	7,444
Value of perquisites	do.	286	223	172	179	185	234	236	237	214	201	204	254	313	401	378	380
Net change in inventory	do.	-431	-445	-696	-175	-921	157	77	39	326	-15	426	2,000	2,043	-1,484	680	447
Net farm income	do.	1,574	599	-27	699	470	941	1,393	662	1,028	611	1,100	4,226	6,274	5,293	7,245	8,271
Rent and interest paid by operator	Dollars	460	312	226	241	261	252	324	230	295	229	275	546	762	709	1,015	1,086
Operator's net farm income	do.	1,114	287	-253	458	209	689	1,069	432	733	382	825	3,680	5,512	4,584	6,230	7,185
Operator's net cash farm income	do.	1,225	466	226	410	902	265	725	129	161	164	163	1,395	3,121	5,631	5,127	6,304
Allocation of net farm income																	
Land and buildings (net rental)	Dollars	624	345	176	202	325	324	399	236	352	236	318	786	1,173	1,097	1,655	1,778
Working assets (current interest rate)	do.	371	317	261	178	167	145	153	163	164	184	176	200	322	463	379	413
Total investment	do.	995	662	437	380	492	469	552	399	516	420	494	986	1,495	1,560	2,034	2,191
Operator and family labor	do.	579	-63	-464	319	-22	472	841	263	512	191	606	3,240	4,779	3,733	5,211	6,080
Operator's labor	do.	395	-215	-581	220	-114	412	777	187	450	148	539	3,201	4,630	3,480	4,941	5,794
All labor	do.	607	-40	-437	341	-22	472	841	263	516	191	615	3,246	4,801	3,842	5,369	6,206
Percentage return to investment	Percent	3.7	2.8	2.1	2.4	2.9	2.8	3.2	2.2	2.9	2.4	3.0	5.7	7.3	6.3	7.8	7.3
Return per hour to all labor used	Dollars	.20	-.01	-.13	.10	-.01	.17	.31	.10	.19	.07	.22	1.28	1.67	1.22	1.70	2.03
Index numbers (1930-44 = 100)																	
Gross farm income	Percent	91	57	32	50	42	57	72	51	64	51	66	164	230	205	268	299
Operator's net farm income	do.	64	17	-15	26	12	40	62	25	42	22	48	213	319	265	360	415
Total production	do.	143	158	99	87	49	39	63	47	79	43	70	151	166	127	179	183
Production per hour of man labor	do.	137	146	88	78	49	42	68	50	87	49	75	175	170	119	167	176
Operating expense per unit of production	do.	70	56	77	80	137	179	111	159	94	171	107	56	56	83	64	63
Total cost per unit of production	do.	77	54	67	69	132	167	108	144	89	153	101	61	74	111	93	98
Total input per unit of production	do.	63	53	85	91	151	187	112	158	92	170	108	50	52	75	53	53
Power and machinery used (quantity)	do.	121	116	106	93	82	79	79	83	91	98	100	101	110	119	122	129
Prices received for products sold	do.	91	53	43	55	78	104	113	120	87	86	84	102	137	172	175	185
Prices paid including wages to hired labor	do.	109	101	87	84	94	98	97	101	100	99	97	104	105	109	115	115

1/ Preliminary.

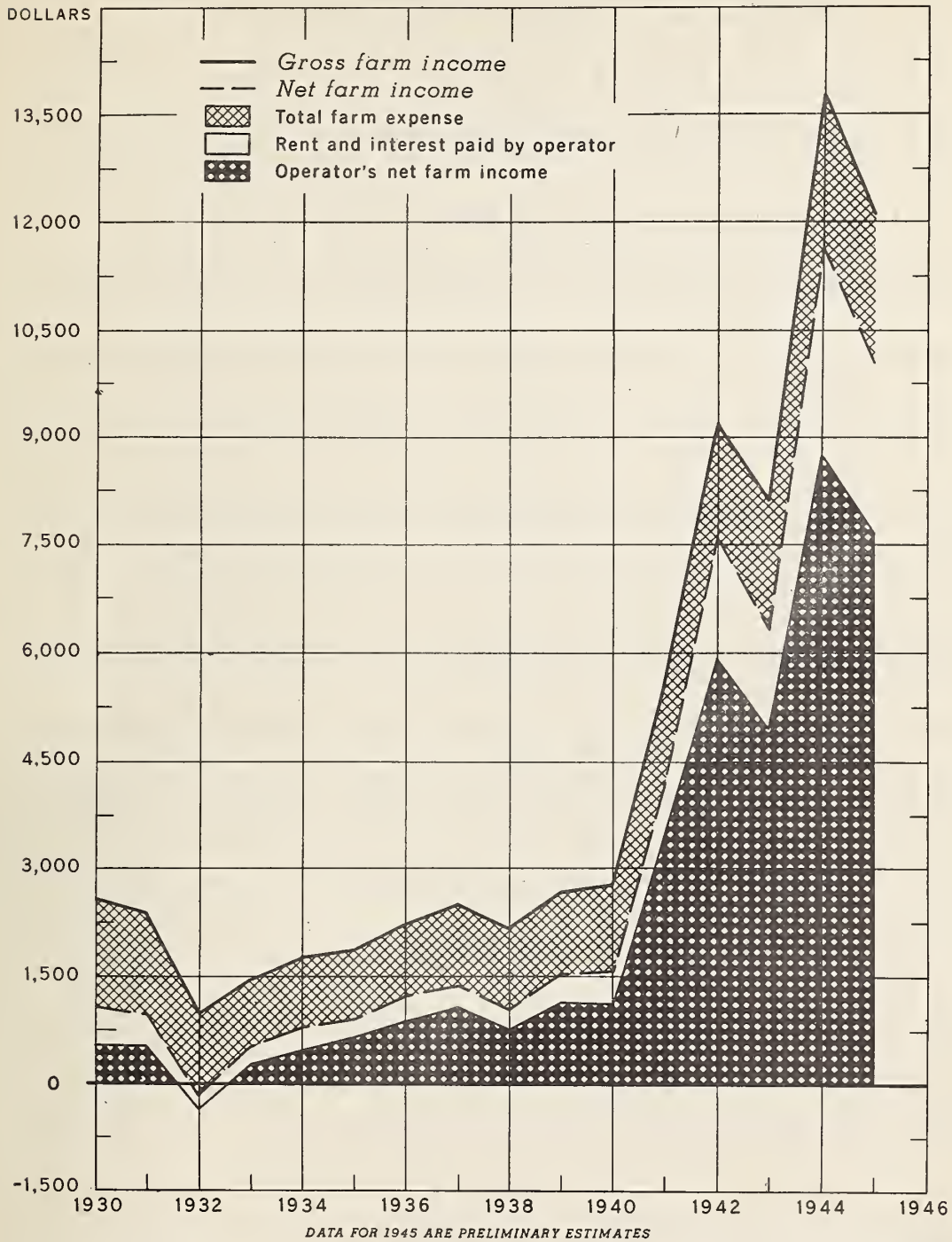
Location and general characteristics of typical family-operated winter wheat-grain sorghum farms, Southern Plains

These farms cover some 30,000 square miles of level to rolling terrain in the Canadian-Cimaron High Plains of southwestern Kansas and the Panhandles of Oklahoma and Texas. They are among the larger and more mechanized wheat farms in the plains areas. Although all had tractors and considerable mechanical equipment as early as 1930, many new items have been added and new and improved tractors and equipment have replaced the older models. As a result, the size of farm and the output per man have been increasing. During the 16-year period, 1930 to 1945, the size of farm increased from 600 to 700 acres and the output per hour of man labor (although it had its ups and downs because of the droughts during the early 1930's) almost doubled. The output per hour of man labor in 1940-44 was 59 percent more than that of 1930-34. About 3,000 hours of labor are used on each of these farms each year. Over 95 percent of this is performed by the operator and his family. Practically all of the hired labor is employed during the harvesting season--July, August, and October.

Nearly 80 percent of the land is cultivated. Wheat is by far the most important enterprise; nearly 300 acres are seeded to wheat each year. Wheat and grain sorghum are the only two crops that are normally sold. More than half of the total farm receipts comes from wheat; grain sorghums contributed materially during the war. During the period 1930-39 about 55 acres were devoted to grain sorghum exclusive of forage sorghums. In 1940-44 approximately 85 acres were devoted to this crop. (The increase in forage sorghums was even more pronounced.) The price of grain sorghums averaged 44 cents per bushel in 1930-39 and 74 cents in 1940-44. Nearly 1,800 bushels were sold in 1940-44 compared with 520 bushels in 1930-39.

These farms are located in a rather hazardous area and the operators have had serious reverses and many disappointments. Although they seed nearly 300 acres to wheat each year they sometimes harvest as little as 75 acres. In 1933 and 1935 more than 70 percent of the acreage in wheat was abandoned before harvest. In 1931, 1942, 1943, and 1945 less than 5 percent was abandoned. An index of total production for these farms based on 1930-44 = 100 averaged 125 during 1930-31, dropped to 45 in 1933, and remained well below 70 during the next 7 years (until 1940) after which it began to rise, and it averaged over 170 during the years 1941-45. Returns per hour of labor averaged 6 cents during 1930-34 compared with $1.45 during 1940-44.

INCOME AND EXPENSE, TYPICAL FAMILY-OPERATED WINTER WHEAT-GRAIN SORGHUM FARMS, SOUTHERN PLAINS, 1930-45



DATA FOR 1945 ARE PRELIMINARY ESTIMATES

U.S. DEPARTMENT OF AGRICULTURE NEG. 4S684 BUREAU OF AGRICULTURAL ECONOMICS

FIGURE 21

Table 26.- Land use, livestock numbers and distribution of income and expense, typical family operated winter wheat-grain sorghum farms, Southern Plains 1930-45

Item	Unit	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945 1/
Total land in farm	Acres	589	590	591	591	591	591	595	605	620	635	655	665	675	680	685	690
Proportion of land in:																	
Cropland harvested	Percent	60	65	55	34	42	30	35	40	41	37	41	48	54	55	63	65
Idle, fallow and failure	do.	18	13	24	45	35	46	43	39	37	42	37	30	24	23	15	13
Pasture and other land	do.	22	22	21	21	23	24	22	21	22	21	22	22	22	22	22	22
Crops harvested:																	
Wheat	Acres	266.0	296.0	210.0	85.0	164.0	73.0	123.0	164.0	169.0	148.0	133.0	188.0	220.0	219.0	264.0	317.0
Grain sorghum	do.	48.3	54.3	62.6	62.6	55.0	76.2	58.3	50.8	52.1	50.2	71.4	59.8	77.6	95.9	113.0	85.6
Hay	do.	7.7	7.7	7.7	7.7	7.7	8.9	9.5	8.5	9.3	9.5	9.9	10.7	11.5	10.8	12.3	12.5
Forage sorghum	do.	6.5	7.7	8.3	11.8	8.3	10.0	7.7	9.1	15.5	17.7	25.6	25.9	21.6	18.4	19.9	15.2
Other crops	do.	23.0	20.7	37.8	33.7	14.7	10.6	10.8	6.6	8.7	8.2	27.5	32.0	31.8	29.2	23.9	19.3
Crop yield (per harvested acre):																	
Wheat	Bushels	11.4	17.2	8.0	5.7	7.1	5.8	7.0	6.6	8.4	8.1	9.8	13.1	20.8	10.5	18.6	13.0
Grain sorghum	do.	12.2	19.3	11.6	9.9	4.3	7.9	5.8	11.1	11.1	9.0	12.6	23.4	23.9	18.1	26.9	20.2
All crops (index 1930-44=100)	Percent	101	155	80	59	57	58	61	68	82	74	94	139	186	107	179	128
Livestock on farm January 1:																	
All cattle	Number	22.2	20.4	21.1	21.6	23.4	16.4	15.0	17.8	14.1	16.5	14.2	18.0	24.0	30.5	29.7	35.2
Milk cows	do.	3.2	3.1	2.8	3.2	4.0	3.7	2.8	5.0	4.5	4.3	4.3	3.8	4.4	4.8	4.8	4.3
Hogs, all ages	do.	5.2	5.3	8.3	8.1	6.1	3.5	3.2	3.7	3.1	4.2	6.0	6.7	11.5	16.9	16.8	6.6
Poultry	do.	118.0	105.0	98.0	99.0	103.0	81.0	74.0	106.0	87.0	104.0	116.0	102.0	135.0	169.0	177.0	154.0
Workstock	do.	4.1	3.5	3.2	3.1	2.9	2.5	2.0	2.0	1.6	1.3	1.1	1.1	1.1	1.1	1.0	1.0
Farms with tractors	Percent	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Proportion of cash receipts from:																	
Wheat	Percent	66	67	66	27	35	23	32	36	40	27	29	42	49	47	47	49
Grain sorghum	do.	5	12	8	12	0	9	6	3	6	5	17	16	14	18	34	26
Other crops	do.	0	0	0	0	0	0	0	0	0	0	2	8	5	1	1	4
Hogs	do.	2	2	3	3	2	2	3	3	3	3	3	4	6	7	5	2
Cattle	do.	16	11	14	11	22	16	5	19	7	16	4	2	4	10	4	10
Other livestock	do.	3	2	2	2	2	3	2	3	3	2	1	2	2	2	1	1
Livestock products	do.	8	6	7	8	8	11	7	12	12	8	10	8	8	8	6	6
Government payments	do.	--	--	--	37	31	36	45	24	29	39	34	18	12	7	2	2
Proportion of cash expenditures for:																	
Feed	Percent	1	1	1	1	3	2	1	2	1	2	2	2	4	5	4	3
Labor	do.	4	4	3	3	1	2	1	1	1	1	2	2	5	11	13	12
Power and machinery	do.	69	69	71	68	70	71	76	75	77	75	76	77	73	64	66	69
General farm	do.	20	21	21	22	20	19	17	17	16	18	17	15	14	13	10	10
Miscellaneous	do.	6	5	4	6	6	6	5	5	5	4	3	4	4	7	7	6

1/ Preliminary.

Table 27.- Investment, income and related factors, typical family operated winter wheat-grain sorghum farms, Southern Plains, 1930-45

Item	Unit	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945 1/
Total land in farm	Acres	589	590	591	591	591	591	595	605	620	635	655	665	675	680	685	690
Proportion rented	Percent	54	58	62	66	70	74	75	76	77	78	79	79	79	80	80	80
Cropland harvested	Acres	352	386	326	201	290	179	209	239	255	234	267	316	362	373	433	450
Total labor used	Hours	3,088	3,095	3,038	2,895	2,889	2,728	2,540	2,782	2,686	2,652	2,789	2,800	3,068	3,296	3,326	3,231
Labor hired	do.	182	223	186	121	98	137	54	56	66	59	144	129	243	379	516	458
Total investment	Dollars	26,899	23,741	20,475	16,043	15,916	16,525	16,625	17,733	18,231	18,237	17,457	16,166	21,055	25,913	27,208	31,661
Land and buildings	do.	22,382	20,060	17,139	13,593	13,593	14,184	14,280	15,125	15,500	15,240	14,410	14,630	15,525	17,680	20,550	23,460
Machinery and equipment	do.	2,268	2,163	1,911	1,656	1,502	1,446	1,457	1,576	1,765	1,891	1,923	2,032	2,324	2,551	2,670	2,865
Livestock	do.	1,393	897	629	548	545	471	670	741	627	773	704	891	1,513	2,532	2,232	2,351
Crops on hand	do.	856	621	796	246	276	424	218	291	339	333	420	613	1,693	3,150	1,756	2,985
Cash receipts	do.	2,892	2,139	1,372	1,370	1,786	1,684	1,956	2,270	1,795	2,449	2,201	3,772	6,602	9,753	11,904	12,235
Cash expenditures	do.	1,467	1,215	892	741	851	987	1,103	1,272	1,324	1,236	1,303	1,589	1,754	1,836	2,229	2,295
Net cash farm income	do.	1,425	924	480	629	935	697	853	998	471	1,213	898	2,183	4,848	7,917	9,675	9,940
Value of perquisites	do.	281	221	167	176	184	229	234	235	213	208	198	252	312	404	378	392
Net change in inventory	do.	-651	-174	-803	-296	-345	-46	127	160	344	85	465	1,727	2,426	-1,989	1,576	-296
Net farm income	do.	1,055	971	-156	509	774	880	1,214	1,393	1,028	1,506	1,561	4,162	7,586	6,332	11,629	10,036
Rent and interest paid by operator	Dollars	506	463	193	228	300	237	361	351	300	367	440	884	1,664	1,365	2,897	2,376
Operator's net farm income	do.	549	508	-349	281	474	643	853	1,042	728	1,139	1,121	3,278	5,922	4,967	8,732	7,660
Operator's net cash farm income	do.	887	422	248	354	587	417	454	611	135	809	421	1,258	3,137	6,502	6,718	7,494
Allocation of net farm income																	
Land and buildings (net rental)	Dollars	560	479	116	164	290	268	393	375	349	420	504	972	1,794	1,517	3,100	2,577
Working assets (current interest rate)	do.	348	283	260	176	151	145	141	151	161	180	177	202	310	469	360	443
Total investment	do.	908	762	376	340	441	413	534	526	510	600	681	1,174	2,104	1,986	3,460	3,020
Operator and family labor	do.	147	209	-532	169	333	467	680	867	518	906	880	2,988	5,482	4,346	8,169	7,016
Operator's labor	do.	-12	97	-608	114	268	430	657	795	468	861	824	2,913	5,329	4,096	7,933	6,773
All labor	do.	200	255	-505	186	348	490	689	880	532	918	910	3,025	5,574	4,534	8,464	7,292
Percentage return to investment	Percent	3.4	3.2	1.8	2.1	2.8	2.5	3.2	3.0	2.8	3.3	3.9	6.5	10.0	7.7	12.7	9.5
Return per hour to all labor used	Dollars	.06	.08	-.17	.06	.12	.18	.27	.32	.20	.35	.33	1.08	1.82	1.38	2.54	2.26
Index numbers (1930-44 = 100)																	
Gross farm income	Percent	65	60	24	37	44	47	56	62	54	66	70	139	230	203	343	303
Operator's net farm income	do.	28	25	-17	14	24	32	43	52	37	57	56	165	297	249	438	384
Total production	do.	115	181	78	45	53	37	42	57	67	62	80	136	195	125	227	178
Production per hour of man labor	do.	111	175	77	46	55	40	50	62	75	70	86	145	191	113	204	164
Operating expense per unit of production	do.	85	48	92	142	120	178	152	120	104	114	92	61	49	87	56	69
Total cost per unit of production	do.	89	47	77	119	111	158	145	115	96	107	89	68	70	118	91	112
Total input per unit of production	do.	74	45	99	163	133	186	156	121	103	113	91	57	44	74	41	53
Power and machinery used (quantity)	do.	121	116	107	95	84	79	78	81	89	97	100	103	111	118	121	128
Prices received for products sold	do.	92	52	44	64	75	103	114	114	80	84	82	102	128	171	195	205
Prices paid including wages to hired labor	do.	110	101	90	87	93	95	95	98	98	97	95	100	104	114	123	122

1/ Preliminary.

NOTE: See text for explanation of terms.

Location and general characteristics of typical family-operated cotton-grain sorghum farms, Southern Plains

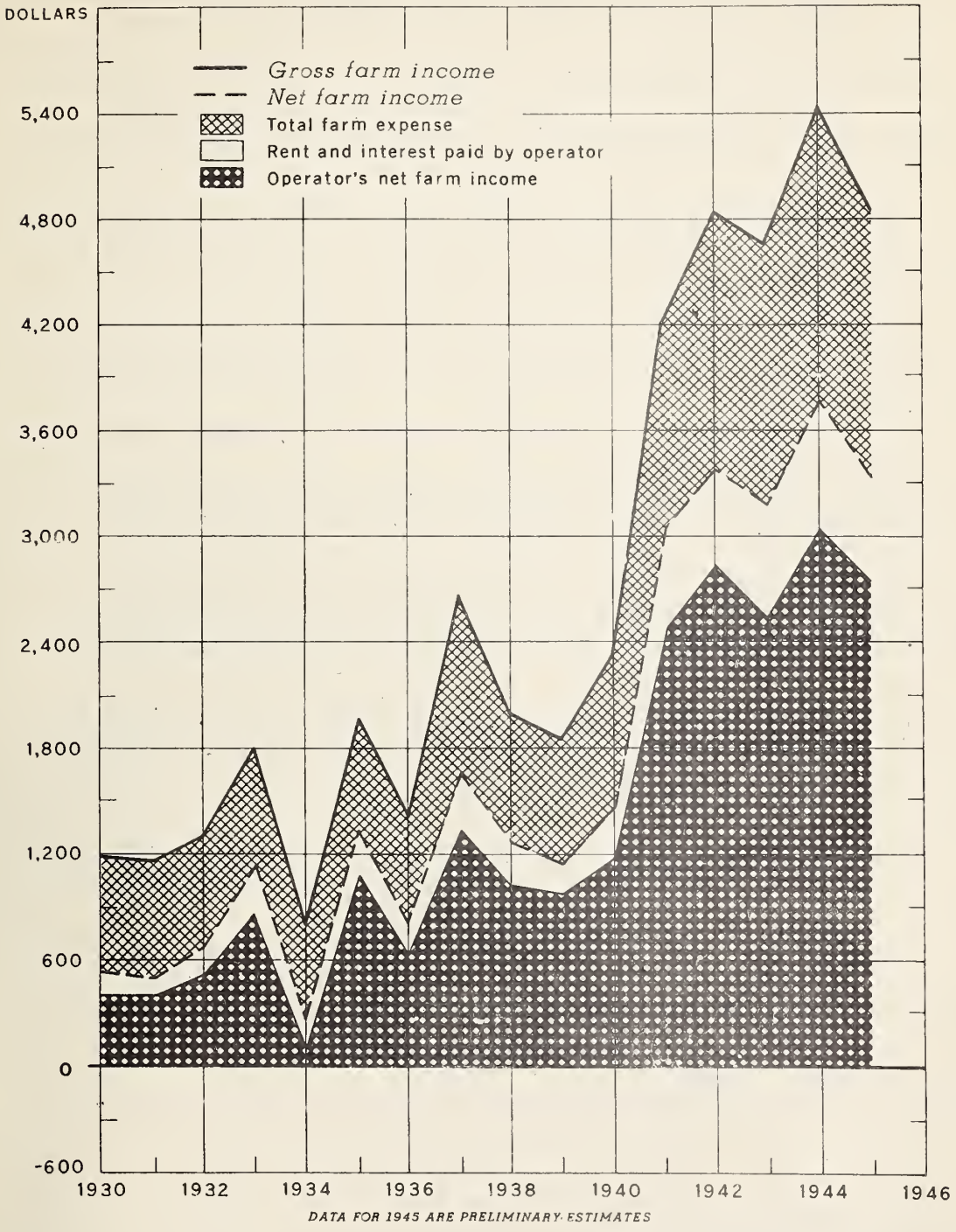
Large-scale methods of production and a high degree of mechanization characterize cotton-grain sorghum farms in the southern Great Plains region. In virtually every respect, these farms are an extreme departure from the scale and methods of production typifying family-operated cotton farms in the Old South. The smooth surface of this area is conducive to the use of multi-row planting and cultivating equipment. Average annual rainfall of about 20 inches makes weed control a minor problem and chopping has become the exception rather than the rule. These farmers generally depend upon migratory workers for harvesting the cotton crop; more than three-fourths of the harvest labor is normally hired. This combination of conditions results in these family-operated farms being large by cotton-farm standards. Families here typically handle 50 to 60 acres of cotton which produce some 20 to 30 bales of lint.

Virtually all of the cotton in the Plains area is harvested by "snapping," that is, by removing the entire boll from the plant. Only 12 to 14 hours of hand labor are required for harvesting an acre in this way, about two-thirds as much as for picking. Efficient production and harvesting methods make this the lowest labor-cost cotton-producing area. Widespread use of combines in harvesting grain sorghums has further reduced the labor costs.

Typical cotton-grain sorghum farms account for the bulk of the 2.5-3.0 million acres of cotton grown in the High Plains and in the Low or Rolling Plains at the southern end of the Texas Panhandle. They are mostly restricted to the sandy loam soils, for wheat is of considerable importance on the so-called tight lands, particularly in seasons when weather and price conditions are favorable for wheat production. About three-fourths of the total land on these farms is cultivated, some 80 percent of it is planted to cotton and grain sorghums. From 1938 to 1941 forage sorghums achieved a measure of importance at the expense of the grain-producing varieties as a result of AAA's conservation efforts and programs. Unusually favorable prices for grain sorghum during the war stimulated substantial increases in the production of this crop and it now occupies about as large an acreage as does cotton. The sales of cotton and cotton seed, however, still account for about half the cash farm receipts. Livestock and livestock products usually contribute 20 to 30 percent of the cash income on these farms and add further to the diversification of the farming system.

Operators of Plains cotton farms, like other farmers in regions of low rainfall, are constantly faced with the threat of crop failure. Actual abandonment is not usually high but crop yields and total production fluctuate widely from year to year so annual earnings of the families on cotton-grain sorghum farms in this area are far from stable.

INCOME AND EXPENSE, TYPICAL FAMILY-OPERATED COTTON-GRAIN SORGHUM FARMS, SOUTHERN PLAINS, 1930-45



DATA FOR 1945 ARE PRELIMINARY ESTIMATES

U.S. DEPARTMENT OF AGRICULTURE NEG. 45685 BUREAU OF AGRICULTURAL ECONOMICS

FIGURE 22

Table 28.- Land use, livestock numbers and distribution of income and expense, typical family operated cotton-grain sorghum farms, Southern Plains 1930-45

Item	Unit	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945 1/
Total land in farm	Acres	180	181	182	186	188	190	196	201	205	208	212	215	217	219	221	221
Proportion of land in:																	
Cropland harvested	Percent	66	66	69	2/ 58	56	62	56	67	61	55	60	61	59	67	69	61
Idle and failure	do.	6	4	3	3/ 16	11	4	6	3	7	13	9	6	8	5	2	9
Pasture and other land	do.	28	30	28	26	33	34	38	30	32	32	31	33	33	28	29	30
Crops harvested																	
Cotton	Acres	62.9	60.7	64.6	52.4	46.0	47.9	59.0	76.0	53.0	48.2	51.5	51.4	53.9	57.1	54.6	40.7
Grain sorghum	do.	23.1	22.8	25.3	18.3	23.0	26.4	13.4	25.0	30.7	30.0	35.8	41.2	47.9	52.2	69.0	68.3
Forage sorghum	do.	19.2	19.5	17.1	24.4	21.6	26.3	24.7	19.7	24.2	23.7	26.1	23.3	13.1	21.8	16.2	16.3
Other crops	do.	12.8	16.0	18.9	13.4	15.0	16.3	13.2	13.7	18.1	12.0	13.9	15.4	12.0	14.8	13.3	11.8
Crop yield (per harvested acre):																	
Cotton	Pounds	74	159	205	229	58	148	99	209	150	134	179	238	224	153	204	200
Grain sorghum	Bushels	10.6	18.3	18.3	17.1	7.2	16.4	11.6	19.5	17.1	11.5	14.3	22.3	21.1	18.9	20.0	19.3
All crops (index 1930-44=100)	Percent	62	101	117	118	40	99	69	121	96	77	100	143	133	97	127	120
Livestock on farm January 1:																	
All cattle	Number	8.3	8.7	9.1	10.1	10.1	8.6	9.4	11.0	10.6	11.0	10.7	11.6	12.7	12.8	11.3	11.5
Milk cows	do.	3.7	3.9	4.2	4.4	4.1	3.9	3.8	4.0	4.7	4.8	4.8	5.0	5.3	5.6	5.8	6.3
Hogs, all ages	do.	7.7	11.2	15.4	14.8	10.8	6.1	4.8	6.0	5.2	8.0	10.7	6.8	7.2	13.5	12.5	7.0
Poultry	do.	100	115	105	105	100	90	90	95	100	105	110	105	115	150	155	140
Workstock	do.	6.0	6.2	5.7	5.8	5.4	5.3	5.3	4.9	4.4	3.9	3.1	2.6	2.3	1.9	1.9	1.9
Farms with tractors	Percent	13	16	16	16	17	29	36	48	52	57	64	72	78	81	81	87
Proportion of cash receipts from:																	
Cotton, lint	Percent	47	55	68	62	40	51	50	50	35	32	39	47	50	37	43	41
Cottonseed	do.	5	6	6	6	2	9	7	10	6	4	6	9	8	4	7	6
Grain sorghum	do.	0	0	0	0	0	2	0	3	5	0	3	9	7	8	16	16
Other crops	do.	0	0	1	1	0	4	3	2	6	3	5	4	2	3	4	3
Livestock	do.	28	24	15	7	16	10	12	12	15	18	15	11	16	27	15	14
Livestock products	do.	20	15	10	8	19	11	15	9	13	13	10	8	11	15	12	16
Government payments	do.	--	--	--	16	23	13	13	14	20	30	22	12	6	6	3	4
Proportion of cash expenditures for:																	
Ginning	do.	11	22	27	20	6	13	11	19	13	11	13	15	13	11	11	8
Labor	do.	21	21	26	34	7	17	13	30	15	15	22	29	36	44	39	34
Power and machinery	do.	38	21	24	24	54	47	54	36	50	51	47	42	37	29	36	43
General farm	do.	17	16	13	15	13	12	13	8	13	13	11	9	8	8	7	8
Miscellaneous	do.	13	20	10	7	20	11	9	7	9	10	7	5	6	8	7	7

1/ Preliminary.
2/ Includes 10.4 acres of sorghum planted on land removed from cotton.
3/ Includes 15.0 acres of cotton plowed up in cooperation with the 1933 acreage reduction program which were not planted to other crops. In all 25.4 acres of cotton were plowed up.

Table 29.- Investment, income and related factors, typical family operated cotton-grain sorghum farms, Southern Plains, 1930-45

Item	Unit	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945 1/
Total land in farm	Acres	180	181	182	186	188	190	196	201	205	208	212	215	217	219	221	222
Proportion rented	Percent	69	69	70	70	70	70	70	71	71	71	71	71	70	69	69	69
Cropland harvested	Acres	118	119	126	108	106	117	110	134	126	114	127	131	127	146	153	134
Total labor used	Hours	3,985	4,203	4,422	4,601	3,372	3,476	3,468	4,007	3,757	3,880	3,823	3,824	4,017	4,302	3,706	3,417
Labor hired	do.	845	975	1,170	1,387	399	625	643	1,086	712	718	612	1,014	1,233	1,399	959	721
Total investment	Dollars	10,856	9,677	7,686	6,667	7,292	7,586	8,414	9,022	9,276	9,116	9,477	9,622	10,484	11,799	12,973	14,063
Land and buildings	do.	8,820	7,964	6,370	5,580	6,016	6,270	6,664	7,035	7,380	7,280	7,632	7,740	8,246	8,979	9,945	11,100
Machinery and equipment	do.	562	526	447	395	395	557	612	739	815	836	836	915	1,040	1,157	1,150	1,289
Livestock	do.	891	732	596	513	572	623	632	862	801	770	707	686	915	1,290	1,118	1,051
Crops on hand	do.	583	455	273	179	309	436	306	386	282	228	302	281	283	373	760	623
Cash receipts	do.	903	936	1,143	1,690	809	1,528	1,220	2,396	1,736	1,647	2,083	3,730	4,158	4,193	5,071	4,288
Cash expenditures	do.	621	568	565	648	672	684	726	1,084	780	729	920	1,248	1,530	1,424	1,752	1,625
Net cash farm income	do.	282	368	578	1,042	137	844	494	1,312	956	918	1,163	2,482	2,628	2,769	3,319	2,663
Value of perquisites	do.	341	261	205	202	246	286	295	285	266	254	262	326	400	472	484	527
Net change in inventory	do.	-95	-126	-110	-109	-114	200	26	62	39	-24	48	246	356	-64	-31	141
Net farm income	do.	528	503	673	1,135	269	1,330	815	1,659	1,261	1,148	1,473	3,054	3,384	3,177	3,772	3,331
Rent and interest paid by operator	Dollars	116	108	153	272	163	251	184	322	239	176	305	576	544	640	730	586
Operator's net farm income	do.	412	395	520	863	106	1,079	631	1,337	1,022	972	1,168	2,478	2,840	2,537	3,042	2,745
Operator's net cash farm income	do.	140	236	404	748	-46	569	292	972	699	721	637	1,886	2,062	2,106	2,559	2,040
Allocation of net farm income																	
Land and buildings (net rental)	Dollars	105	97	162	334	183	311	220	415	300	213	397	776	743	893	1,023	814
Working assets (current interest rate)	do.	175	140	108	82	92	113	116	123	120	116	114	113	132	175	185	181
Total investment	do.	280	237	270	416	275	424	336	538	420	331	511	891	875	1,068	1,208	995
Operator and family labor	do.	248	266	403	719	-6	906	479	1,121	841	817	962	2,163	2,509	2,109	2,564	2,336
Operator's labor	do.	109	153	317	641	-73	846	420	1,041	746	737	875	2,087	2,413	1,935	2,361	2,159
All labor	do.	374	384	550	945	43	1,025	579	1,432	964	932	1,159	2,523	3,062	2,733	3,250	2,869
Percentage return on investment	Percent	2.6	2.4	3.5	6.2	3.8	5.4	4.0	6.0	4.5	3.6	5.4	9.3	8.3	9.1	9.3	7.1
Return per hour to all labor used	Dollars	.09	.09	.12	.21	.01	.29	.17	.36	.26	.25	.30	.66	.76	.64	.88	.84
Index numbers (1930-44 = 100)																	
Gross farm income	Percent	47	46	52	72	32	79	56	106	79	74	93	168	193	186	217	193
Operator's net farm income	do.	32	31	40	67	8	83	49	103	79	75	90	192	220	196	235	212
Total production	do.	67	100	124	106	44	89	68	135	96	77	96	128	130	113	127	109
Production per hour of man labor	do.	67	94	110	91	50	100	77	132	100	83	99	131	128	104	134	126
Operating expense per unit of production	do.	123	76	56	71	150	84	106	82	84	102	94	93	114	133	132	141
Total cost per unit of production	do.	128	70	50	67	148	85	106	72	84	95	90	94	107	143	161	172
Total input per unit of production	do.	137	92	75	87	198	94	130	72	96	116	96	74	74	84	75	85
Power and machinery used (quantity)	do.	92	90	81	76	73	89	94	104	109	111	107	112	118	124	120	132
Prices received for products sold	do.	94	56	52	71	82	96	99	77	79	81	84	126	149	175	177	183
Prices paid including wages to hired labor	do.	107	85	70	83	85	92	92	96	92	92	94	105	122	141	144	140

1/ Preliminary.

NOTE: See text for explanation of terms.

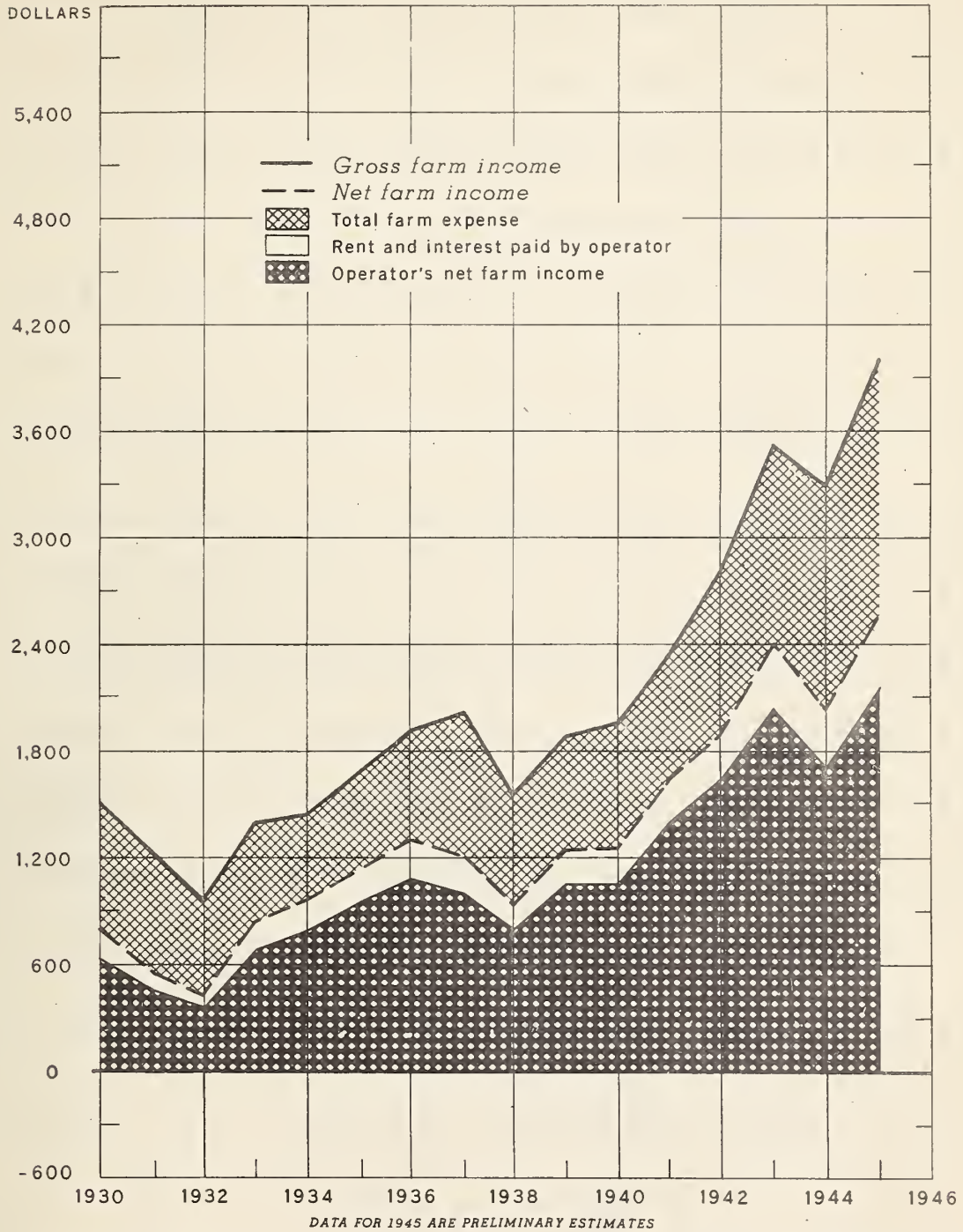
Location and general characteristics of typical family-operated cotton farms, Black Prairie Area, Texas

Cotton farms are about the only kind found in the Black Prairie area which extends finger-like some 500 miles from the border of Oklahoma through east-central Texas to the vicinity of San Antonio (Fig. 1). Unusual uniformity in the farming system characterizes cotton farms in this area. The usual enterprises are cotton, corn, hay, and a little livestock. A high percentage of tenancy prevails. As in other highly specialized cotton-producing sections, cotton has given way somewhat to corn, hay crops, and pasture since the governmental cotton acreage-reduction programs were inaugurated in 1933. With the increase in feed production, livestock has gained in relative importance but the increases have come slowly owing to lack of facilities on the one hand, and to lack of management knowledge on the other. Cotton still occupies nearly half of the cultivated land and contributes more than two-thirds of the cash farm income.

Black Prairie cotton farms are in many respects a transition from the small-farm type of organization to the east to the large-scale mechanized cotton farms of the Southern Plains. In their dependence upon migratory workers for picking half or more of the cotton, these farms are a step away from the method of cotton production characterizing the Old South in which even seasonal peak requirements are met largely with resident labor. Consequently, family-operated farms here are typically larger and have a considerably bigger acreage in cotton than do similar farms in the eastern cotton areas. Their shift from mule-drawn to tractor-drawn equipment has progressed more rapidly than on family-operated cotton farms in sections where the scale of operation is limited by the size of the resident labor force. In the past decade, tractors have replaced mules as the principal source of power on about three-fourths of these Black Prairie farms.

Production on these farms is fairly stable. Fluctuations in operator's earnings result largely from shifts in price-cost relationships. Cotton yields on Black Prairie farms are relatively low and have improved far less during the past decade than have those in most other major cotton areas. Yet, operators of these cotton farms find themselves in the unique and unfortunate position of having few satisfactory alternatives to the cotton enterprise. Yields of corn are comparatively low and land at its present value is too expensive to shift to a materially lower intensity of use. On the brighter side, however, the topography makes this area well adapted to the use of mechanical equipment for cotton harvesting and production.

INCOME AND EXPENSE, TYPICAL FAMILY-OPERATED COTTON FARMS, BLACK PRAIRIE AREA, TEXAS, 1930-45



DATA FOR 1945 ARE PRELIMINARY ESTIMATES

U.S. DEPARTMENT OF AGRICULTURE NEG. 45686 BUREAU OF AGRICULTURAL ECONOMICS

FIGURE 23

Table 30.- Land use, livestock numbers and distribution of income and expense, typical family operated cotton farms, Black Prairie area, Texas 1930-45

Unit	Unit	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945 1/
Total land in farm	Acres	125	125	125	126	127	128	130	132	133	134	136	137	139	142	142	142
Proportion of land in:																	
Cropland harvested	Percent	80	81	81	67	69	71	68	74	66	66	66	65	65	70	70	69
Idle and failure	do.	3	2	2	2/ 16	8	6	7	5	10	7	6	7	8	5	4	4
Pasture and other land	do.	17	17	17	17	23	23	25	21	24	27	28	28	27	25	26	27
Crops harvested:																	
Cotton	Acres	61.7	59.4	58.0	46.7	42.4	44.8	50.1	61.5	42.1	42.5	42.8	41.2	43.0	46.7	46.7	51.1
Corn	do.	16.7	18.9	18.9	19.7	21.4	21.6	19.9	21.3	23.3	27.0	27.3	28.6	33.8	34.9	33.5	28.2
Oats	do.	7.5	8.7	8.9	5.8	8.3	8.9	6.9	6.6	7.4	7.0	6.8	6.5	1.3	4.8	5.6	6.1
Other crops	do.	13.7	14.3	15.3	11.8	15.2	15.7	12.1	8.6	15.2	11.9	12.9	12.6	11.8	12.9	13.1	13.0
Crop yield (per harvested acre):																	
Cotton	Pounds	132	206	154	204	150	128	169	198	188	192	196	144	166	170	164	173
Corn	Bushels	19.5	19.2	20.4	12.3	9.3	24.2	16.2	19.4	19.7	23.5	25.7	15.4	14.4	17.4	15.4	17.7
All crops (index 1930-44=100)	Percent	91	115	98	100	77	96	94	113	111	119	126	84	87	96	93	101
Livestock on farm January 1:																	
All cattle	Number	4.1	4.2	5.0	5.8	6.7	6.2	6.1	6.6	6.5	7.0	7.7	8.5	9.3	10.3	11.7	11.3
Milk cows	do.	3.1	3.2	3.5	3.8	3.9	3.8	3.5	3.6	3.3	3.5	3.5	3.7	3.8	4.4	4.5	4.9
Hogs, all ages	do.	3.2	3.8	4.0	4.3	4.2	3.1	3.0	3.4	3.3	3.2	4.4	4.0	4.2	5.8	6.4	4.1
Poultry	do.	85	82	82	85	78	68	69	78	77	83	90	85	95	115	122	125
Workstock	do.	4.8	4.8	4.8	4.7	4.3	3.9	3.8	3.4	3.3	3.2	3.3	3.5	3.0	2.9	2.5	2.3
Farms with tractors	Percent	8	10	12	15	20	27	30	36	38	40	43	54	66	70	72	78
Proportion of cash receipts from:																	
Cotton, lint	Percent	68	72	75	68	64	47	63	61	49	46	45	50	57	52	44	44
Cottonseed	do.	10	8	7	7	10	7	10	10	8	7	7	9	8	8	7	7
Other crops	do.	3	3	3	0	0	17	3	8	8	12	15	7	6	7	8	7
Livestock	do.	6	6	5	2	4	5	6	6	7	6	6	7	10	14	27	27
Livestock products	do.	13	11	10	7	8	10	9	9	10	8	9	12	13	15	13	14
Government payments	do.	--	--	--	16	14	14	9	6	18	21	18	15	6	4	1	1
Proportion of cash expenditures for:																	
Ginning	Percent	8	18	18	23	15	12	15	17	13	13	11	10	10	8	7	7
Labor	do.	34	28	25	26	17	16	20	27	15	15	14	16	27	37	34	38
Power and machinery	do.	43	20	27	25	38	39	39	32	42	43	49	51	37	28	34	33
General farm	do.	8	25	24	21	20	19	16	13	18	17	14	13	14	12	10	9
Miscellaneous	do.	7	9	6	5	10	14	10	11	12	12	12	10	12	15	15	13

1/ Preliminary.
2/ Includes 15.9 acres of cotton plowed up in cooperation with the 1933 acreage reduction program which were not planted to other crops.

Table 31.- Investment, income and related factors, typical family operated cotton farms, Black Prairie Area, Texas, 1930-45

Item	Unit	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945 1/
Total land in farm	Acres	125	125	125	126	127	128	130	132	133	134	136	137	139	142	142	142
Proportion rented	Percent	54	55	56	57	58	58	58	58	57	56	56	55	55	54	54	54
Cropland harvested	Acres	100	101	101	100	87	91	91	98	88	88	90	89	90	100	112	112
Total labor used	Hours	4,886	5,028	4,771	4,750	4,047	4,025	4,261	4,747	3,879	3,992	4,023	3,817	4,043	4,401	4,304	4,510
Labor hired	do.	1,497	1,625	1,319	1,334	788	831	1,040	1,577	794	872	880	817	1,130	1,390	1,286	1,519
Total investment	Dollars	13,280	11,183	9,217	7,887	8,332	8,563	8,753	9,018	8,740	8,607	8,775	8,978	9,845	11,150	12,362	13,356
Land and buildings	do.	11,875	10,000	8,250	7,055	7,365	7,425	7,540	7,655	7,450	7,370	7,480	7,535	8,060	8,945	9,940	10,934
Machinery and equipment	do.	439	428	393	356	360	399	417	471	510	511	501	607	746	788	821	909
Livestock	do.	632	472	411	363	431	457	590	585	560	550	583	621	757	1,075	1,054	983
Crops on hand	do.	334	283	163	113	176	282	206	307	220	176	211	215	282	342	547	530
Cash receipts	do.	1,250	1,018	803	1,274	1,306	1,355	1,670	1,783	1,298	1,591	1,672	1,957	2,275	3,031	2,940	3,476
Cash expenditures	do.	691	620	478	514	499	539	659	821	622	637	777	807	933	1,103	1,312	1,495
Net cash farm income	do.	559	398	325	760	807	816	1,011	962	676	954	895	1,150	1,342	1,928	1,628	1,981
Value of perquisites	do.	268	207	175	183	215	244	262	249	238	237	226	284	350	429	426	472
Net change in inventory	do.	-34	-57	-67	-100	-62	84	25	-4	21	46	130	200	189	49	-20	95
Net farm income	do.	793	548	433	843	960	1,144	1,298	1,207	935	1,237	1,251	1,634	1,881	2,406	2,034	2,548
Rent and interest paid by operator	Dollars	155	90	77	158	185	195	222	218	140	186	201	230	241	366	337	389
Operator's net farm income	do.	638	458	356	685	775	949	1,076	989	795	1,051	1,050	1,404	1,640	2,040	1,697	2,159
Operator's net cash farm income	do.	379	279	221	576	601	604	773	728	521	748	677	903	1,083	1,544	1,267	1,562
Allocation of net farm income																	
Land and buildings (net rental)	Dollars	176	63	47	196	251	274	327	324	200	287	317	376	395	535	580	676
Working assets (current interest rate)	do.	121	97	79	62	70	80	80	85	81	79	80	87	105	137	148	148
Total investment	do.	297	160	126	258	321	354	407	409	281	366	397	463	500	772	728	824
Operator and family labor	do.	496	388	307	585	639	790	891	798	654	871	854	1,171	1,381	1,634	1,306	1,724
Operator's labor	do.	320	257	208	489	548	697	787	696	570	779	759	1,074	1,277	1,463	1,093	1,485
All labor	do.	701	562	423	720	724	872	1,024	1,017	743	972	962	1,304	1,639	2,046	1,747	2,295
Percentage return to investment	Percent	2.2	.4	1.4	3.3	3.9	4.1	4.6	4.5	3.2	4.3	4.5	5.2	5.1	6.9	5.9	6.2
Return per hour to all labor used	Dollars	.14	.11	.09	.15	.18	.22	.24	.21	.19	.24	.24	.34	.41	.46	.41	.51
Index numbers (1930-44 = 100)																	
Gross farm income	Percent	77	62	49	71	74	85	97	102	79	96	99	119	143	180	167	203
Operator's net farm income	do.	61	44	34	66	75	91	104	95	76	101	101	135	158	196	163	207
Total production	do.	94	126	104	98	74	89	95	124	98	108	111	85	94	104	96	108
Production per hour of man labor	do.	83	108	94	89	79	95	97	113	109	117	120	96	101	102	97	103
Operating expense per unit of production	do.	111	76	72	79	97	85	89	87	85	79	84	115	131	142	168	171
Total cost per unit of production	do.	112	65	61	74	103	90	94	80	79	79	80	120	127	155	181	184
Total input per unit of production	do.	110	82	96	103	129	103	101	81	95	87	87	115	105	100	106	97
Power and machinery used (quantity)	do.	96	95	92	87	84	86	88	92	95	97	97	114	125	126	126	135
Prices received for products sold	do.	93	52	53	70	105	95	105	81	72	76	77	130	148	170	173	176
Prices paid including wages to hired labor	do.	111	92	81	84	91	94	95	97	91	89	90	98	114	130	143	149

1/ Preliminary.

NOTE: See text for explanation of terms.

Location and general characteristics of typical family-operated cotton farms, Delta Area, Mississippi

King cotton reigns supreme on the broad alluvial reaches of the Yazoo-Mississippi Delta comprising about 5 million acres of fertile land and forming one of the most highly specialized cotton-producing areas in the world. The Delta is further characterized by a dominance of the plantation system and a resulting high percentage of land worked by croppers and tenants. Before the advent of the acreage-reduction programs, cotton occupied nearly 80 percent of the cropland. Even now upward of 40 percent of the cultivated area is devoted to this high-income crop, leaving all operators, large and small, essentially "one-crop farmers."

Although numerically predominant, family-operated farms contain only 15 percent of the cropland and produce less than 20 percent of all cotton grown in this area. In the present analysis, however, the primary interest is directed to the operations and income on farms on which the labor is performed largely by the operator and his family. These family-operated farms are the ones for which the operator's earnings can be compared more directly with family-operated farms in other areas. Plantations are large-scale farms and are for later consideration.

Family-operated cotton farms in this rich Delta area are small in terms of acres, small in terms of total production, and small in terms of family income. To grow and harvest an acre of cotton by the mule-and-hand methods used on these small farms requires about 150 hours. One-fifth of this total is required for chopping in May and June and three-fifths for picking in September, October, and November—all hand labor. Depending as they do upon resident labor to meet even these peak seasonal requirements, each family's scale of operation is limited to the acreage of cotton the members can work at these times—15 to 20 acres. Lacking the diversification in their farming system to level-out these seasonal peaks, the families on typical Delta cotton farms are characteristically underemployed in all off-season months. Underemployment and hand-labor methods are largely responsible for this being an area of "rich land and poor people."

Cotton farmers in the Delta receive very little cash income from any source except cotton and cottonseed—unless Government payments for reducing cotton production are counted as a separate source. Acreages of feed grains have increased considerably during recent years largely as a result of the reduced cotton acreage. This production has gone to reduce feed purchases for the little livestock they have rather than to increase cash income directly. Many farm families do not even have enough cows, hogs, and chickens to supply the milk, meat, and eggs needed in the family diet.

With their scale of operation restricted by the hand-labor requirements of cotton chopping and picking, these small farm operators have understandably stayed with mule-drawn equipment.

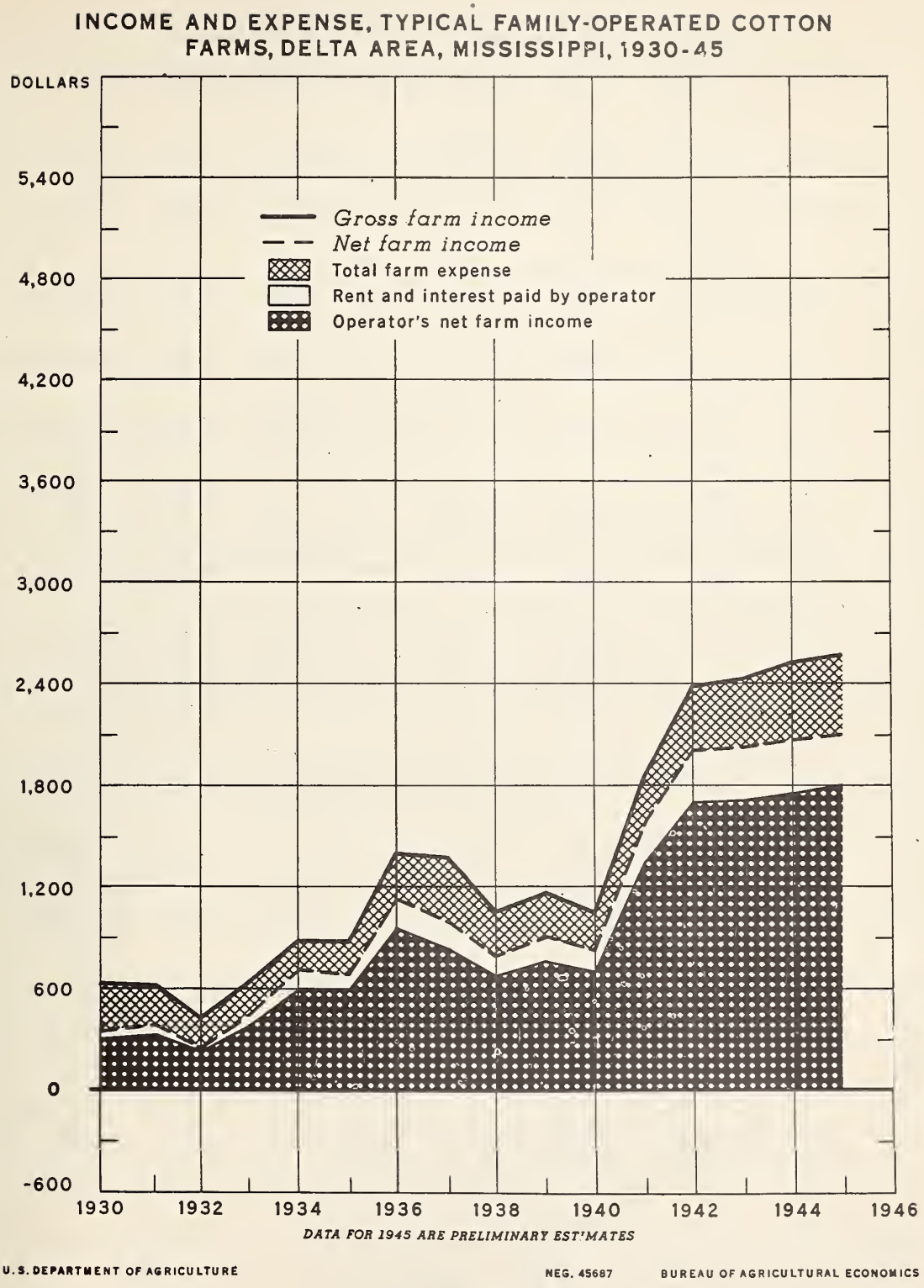

INCOME AND EXPENSE, TYPICAL FAMILY-OPERATED COTTON FARMS, DELTA AREA, MISSISSIPPI, 1930-45
DOLLARS
5,400
4,800
4,200
3,600
3,000
2,400
1,800
1,200
600
0
-600
1930
1932
1934
1936
1938
1940
1942
1944
1946
Gross farm income
Net farm income
Total farm expense
Rent and interest paid by operator
Operator's net farm income
DATA FOR 1945 ARE PRELIMINARY EST'MATES
U.S. DEPARTMENT OF AGRICULTURE
NEG. 45687
BUREAU OF AGRICULTURAL ECONOMICS

FIGURE 24

Table 32.- Land use, livestock numbers and distribution of income and expense, typical family operated cotton farms, Delta area, Mississippi 1930-45

Item	Unit	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945 1/
Total land in farm	Acres	37	37	38	38	38	39	40	40	41	42	43	44	44	44	44	44
Proportion of land in:																	
Cropland harvested	Percent	69	72	73	60	68	70	75	79	71	72	71	72	71	73	74	76
Idle, and failure	do.	8	5	4	2/ 17	9	6	2	0	7	5	7	6	7	4	4	2
Pasture and other land	do.	23	23	23	23	23	24	23	21	22	23	22	22	22	23	22	22
Crops harvested:																	
Cotton	Acres	19.7	19.4	19.0	14.2	13.3	14.5	16.6	19.0	14.0	14.2	14.3	14.0	13.8	14.3	15.0	15.2
Corn	do.	3.4	4.7	5.3	5.7	8.8	8.5	8.1	7.8	9.4	9.7	8.5	8.2	7.9	7.7	7.9	8.0
Oats	do.	.2	.2	.2	.2	.3	.3	.4	.6	.8	1.4	2.1	2.8	3.0	3.1	3.0	3.0
Other crops	do.	2.2	2.5	2.7	2.6	3.6	4.0	4.7	4.3	5.0	5.0	5.4	6.5	6.6	7.3	7.0	7.1
Crop yield (per harvested acre):																	
Cotton	Pounds	163	257	170	208	256	254	358	457	384	421	327	386	481	428	439	412
Corn	Bushels	13.2	23.0	17.4	19.6	17.6	16.6	18.8	22.4	20.8	15.9	18.2	18.8	21.9	20.1	20.7	19.9
All crops (index 1930-44=100)	Percent	60	97	72	87	85	82	103	126	111	108	98	109	128	115	119	114
Livestock on farm January 1:																	
All cattle	Number	1.8	1.8	1.8	1.8	2.1	2.2	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.2	2.3	2.4
Milk cows	do.	1.2	1.2	1.2	1.2	1.4	1.4	1.3	1.3	1.3	1.3	1.3	1.3	1.4	1.4	1.4	1.4
Hogs, all ages	do.	2.8	2.8	2.6	3.0	3.0	2.8	2.8	3.1	3.3	3.7	3.8	2.8	3.0	3.6	4.0	4.0
Poultry	do.	25	24	25	25	22	24	23	26	25	27	26	26	30	34	37	40
Workstock	do.	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Farms with tractors	Percent	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Proportion of cash receipts from:																	
Cotton, lint	do.	75	83	80	74	68	63	71	73	60	59	57	65	72	68	73	72
Cottonseed	do.	17	12	14	11	18	19	19	15	15	13	11	16	15	14	13	13
Other crops	do.	—	--	—	--	—	3	2	5	6	6	8	5	6	8	7	6
Livestock	do.	5	4	5	2	2	3	2	2	3	3	3	2	2	4	4	5
Livestock products	do.	3	1	1	1	1	1	1	1	2	1	0	1	1	2	2	3
Government payments	do.	—	—	—	12	11	11	5	4	14	18	21	11	4	4	1	1
Proportion of cash expenditures for:																	
Ginning	do.	14	17	22	22	22	23	23	23	24	25	23	23	21	22	20	18
Labor	do.	5	5	5	5	2	4	4	4	4	4	5	4	2	5	5	10
Power and machinery	do.	14	11	16	14	25	25	25	19	24	22	24	23	18	15	17	18
General farm	do.	33	42	44	40	37	41	41	47	39	39	37	39	48	46	46	42
Miscellaneous	do.	34	25	13	19	14	7	7	7	9	10	11	11	11	12	12	12

1/ Preliminary.
2/ Includes 4.8 acres of cotton plowed up in cooperation with the 1933 acreage reduction program which were not planted to other crops.

Table 33.- Investment, income and related factors, typical family operated cotton farms, Delta Area, Mississippi, 1930-45

Item	Unit	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945 1/
Total land in farm	Acres	37	37	38	38	38	39	40	40	41	42	43	44	44	44	44	44
Proportion rented	Percent	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
Cropland harvested	Acres	26	27	27	23	26	27	30	32	29	30	30	32	31	32	33	33
Total labor used	Hours	2,759	3,300	2,877	3,010	2,758	2,869	3,553	4,357	3,284	3,452	3,101	3,253	3,543	3,482	3,491	3,642
Labor hired	do.	97	364	123	140	58	102	572	1,109	427	537	293	320	614	575	736	748
Total investment	Dollars	3,811	3,183	2,464	1,971	2,236	2,531	2,829	2,969	3,299	3,551	3,625	3,855	4,269	4,777	5,238	5,849
Land and buildings	do.	3,256	2,775	2,109	1,665	1,862	2,028	2,280	2,320	2,706	2,940	3,010	3,256	3,564	3,916	4,224	4,796
Machinery and equipment	do.	130	123	108	97	92	101	107	115	137	144	147	149	165	179	182	200
Livestock	do.	291	209	182	157	200	243	298	341	325	331	325	307	352	436	475	454
Crops on hand	do.	134	76	65	52	82	159	144	193	131	136	143	143	188	246	357	399
Cash receipts	do.	460	423	299	473	675	677	1,142	1,139	839	995	855	1,568	2,004	1,999	2,071	2,059
Cash expenditures	do.	282	228	154	178	179	193	278	390	258	258	219	288	386	398	469	476
Net cash farm income	do.	178	195	145	295	496	484	864	749	581	737	636	1,280	1,618	1,601	1,602	1,583
Value of perquisites	do.	241	185	139	152	164	196	227	224	201	201	193	242	320	432	408	491
Net change in inventory	do.	-76	-1	-29	-6	51	12	37	25	25	-27	0	59	63	-5	55	24
Net farm income	do.	343	379	255	441	711	692	1,128	998	807	911	829	1,581	2,001	2,028	2,065	2,098
Rent and interest paid by operator	Dollars	46	45	27	60	107	85	167	154	130	146	134	240	297	316	315	302
Operator's net farm income	do.	297	334	228	381	604	607	961	844	677	765	695	1,341	1,704	1,712	1,750	1,796
Operator's net cash farm income	do.	122	140	109	217	381	392	690	588	444	583	494	1,032	1,311	1,275	1,276	1,268
Allocation of net farm income																	
Land and buildings (net rental)	Dollars	28	30	11	54	147	112	247	226	184	210	189	364	459	492	493	471
Working assets (current interest rate)	do.	41	29	25	21	24	32	33	37	34	36	35	34	38	48	57	59
Total investment	do.	69	59	36	85	171	144	280	263	218	246	224	398	497	540	550	530
Operator and family labor	do.	274	320	219	356	540	548	848	735	589	665	605	1,183	1,504	1,488	1,515	1,568
Operator's labor	do.	120	202	153	181	466	465	741	592	489	560	506	1,053	1,342	1,278	1,361	1,381
All labor	do.	288	344	227	365	545	556	902	850	622	709	629	1,240	1,612	1,610	1,679	1,740
Percentage return to investment	Percent	1.8	1.9	1.5	4.3	7.6	5.7	9.9	8.9	6.6	6.9	6.2	10.3	11.6	11.3	10.5	9.1
Return per hour to all labor used	Dollars	.10	.10	.08	.12	.20	.19	.25	.20	.19	.21	.20	.38	.45	.46	.48	.48
Index numbers (1930-44 = 100)																	
Gross farm income	Percent	49	48	33	49	69	68	109	106	82	90	82	145	185	189	196	199
Operator's net farm income	do.	34	39	26	44	70	71	112	98	79	89	81	156	198	199	204	209
Total production	do.	72	99	75	78	79	82	109	142	103	107	93	105	122	114	120	117
Production per hour of man labor	do.	87	99	86	86	95	93	101	108	103	101	99	106	113	109	114	105
Operating expense per unit of production	do.	161	89	89	94	85	88	88	88	86	86	87	96	109	122	132	138
Total cost per unit of production	do.	133	89	88	78	91	88	90	77	87	87	96	116	126	153	141	151
Total input per unit of production	do.	135	89	118	110	108	114	98	74	95	93	107	95	85	95	94	101
Power and machinery used (quantity)	do.	100	98	95	94	91	93	95	95	101	103	104	104	107	110	110	114
Prices received for products sold	do.	83	51	54	71	105	92	108	73	74	75	79	141	159	166	169	172
Prices paid including wages to hired labor	do.	103	87	80	86	90	94	96	99	88	88	89	102	122	135	141	143

1/ Preliminary.

NOTE: See text for explanation of terms.

INDEX NUMBERS, 1935-39 = 100

To aid those who might prefer index number of farm income, production, prices, and related items based on 1935-39 = 100 rather than 1930-44 = 100 and to facilitate comparisons of some items, all index numbers except the combined index of yields of major crops presented before in this report and based on 1930-44 = 100 were also computed on 1935-39 = 100 and are presented in the following tables. Because unsatisfactory weather and growing conditions reduced the crop yields to such extremely low levels on most farms during the middle 1930's, it seemed unnecessary to compute index numbers of crop yields on 1935-39 = 100.

Table 34.- Gross farm income and operator's net farm income, typical family operated farms, by type, 1930-45
Index numbers (1935-39 = 100)

Calendar year	Dairy farms		Corn Belt farms				Spring wheat farms (Northern Plains)			Winter wheat farms (Southern Plains)		Cotton farms		
	Central New York	Southern Wisconsin	Cash grain	Hog-beef fattening	Hog-beef raising	Hog-dairy	Wheat-corn-livestock	Wheat-small grain livestock	Wheat-roughage livestock	Wheat	Wheat-grain sorghum	Southern Plains	Black Prairie	Delta of Mississippi
	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent
	Gross farm income													
1930	119	110	77	84	83	95	127	109	139	154	113	60	84	54
1931	97	61	46	55	57	64	68	40	67	97	104	59	68	53
1932	67	57	37	48	48	49	55	50	88	55	42	66	53	36
1933	71	56	59	43	54	49	51	79	73	86	64	91	77	54
1934	84	61	57	36	40	60	43	38	51	72	76	40	80	75
1935	96	105	94	133	128	110	109	113	131	96	82	100	93	75
1936	95	93	97	68	62	91	48	36	26	123	98	72	106	119
1937	111	114	110	118	113	110	102	139	114	87	109	134	111	117
1938	101	99	92	93	101	97	107	98	100	108	95	100	86	90
1939	97	89	107	88	96	92	134	114	129	86	116	94	104	99
1940	116	111	109	102	118	104	126	126	147	112	121	118	108	89
1941	140	148	167	153	171	150	236	245	267	279	243	212	130	158
1942	186	205	227	233	246	204	341	330	393	390	402	244	156	203
1943	205	235	251	233	237	224	305	411	380	349	355	235	196	207
1944	248	260	237	235	235	212	372	429	475	454	599	274	182	215
1945 1/	274	265	254	253	273	250	384	464	508	507	529	245	221	218
	Operator's net farm income													
1930	116	105	37	46	44	74	85	37	80	169	62	41	66	39
1931	99	25	- 9	- 5	11	30	2	- 40	- 35	43	58	39	47	43
1932	44	29	- 7	9	14	20	- 1	- 24	31	- 38	- 40	52	37	30
1933	57	31	53	8	31	26	20	66	47	69	32	86	71	50
1934	72	38	47	- 26	- 8	37	- 26	- 11	- 32	32	54	10	80	78
1935	111	118	96	160	147	134	125	134	170	104	73	107	97	79
1936	96	90	113	38	37	89	10	- 4	- 54	162	97	63	111	125
1937	99	122	98	126	117	108	100	161	103	65	118	133	102	109
1938	107	94	85	98	106	91	107	82	110	111	83	101	82	88
1939	87	76	108	78	93	78	158	127	171	58	129	96	108	99
1940	118	112	115	112	133	94	138	140	206	125	127	116	108	90
1941	153	175	221	217	227	173	354	370	475	557	372	246	144	174
1942	221	266	322	371	351	255	542	509	723	834	672	282	169	221
1943	240	299	344	321	307	256	427	632	639	693	563	252	210	222
1944	304	330	295	303	283	212	549	645	814	943	990	302	175	227
1945 1/	346	324	325	338	351	271	573	723	879	1,087	869	272	222	233

1/ Preliminary.

Table 35.- Total production and production per hour of man labor, typical family operated farms, by type, 1930-45
Index numbers (1935-39 = 100)

Calendar year	Dairy farms		Corn Belt farms				Spring wheat farms (Northern Plains)			Winter wheat farms (Southern Plains)		Cotton farms		
	Central New York	Southern Wisconsin	Cash grain	Hog-beef fattening	Hog-beef raising	Hog-dairy	Wheat-corn-livestock	Wheat-small grain livestock	Wheat-roughage livestock	Wheat	Wheat-grain sorghum	Southern Plains	Black Prairie	Delta of Mississippi
	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent
	Total production													
1930	92	103	74	93	98	97	150	153	197	262	216	72	91	67
1931	104	87	87	90	110	102	121	75	147	290	341	108	123	91
1932	87	101	104	106	117	106	133	138	229	182	147	133	102	69
1933	84	90	71	89	99	90	77	96	102	159	85	115	96	72
1934	93	83	55	56	64	81	65	49	80	91	99	47	72	73
1935	101	103	97	93	112	98	106	118	135	72	70	95	86	75
1936	89	89	67	115	65	85	50	39	46	116	79	74	93	100
1937	100	105	120	103	115	104	95	123	96	86	108	145	121	131
1938	112	105	108	97	106	104	114	119	97	146	127	103	95	95
1939	98	98	108	92	102	109	135	101	126	80	116	83	105	99
1940	108	116	100	102	116	112	121	124	146	128	150	104	108	86
1941	105	108	114	110	116	110	158	188	194	277	257	137	82	96
1942	119	129	129	130	138	122	200	214	264	304	367	140	92	111
1943	111	125	129	144	130	126	150	207	209	233	236	122	101	105
1944	121	131	127	148	136	118	185	210	246	328	426	137	94	111
1945 1/	129	127	128	151	135	125	177	219	264	336	335	118	105	107
	Production per hour of man labor													
1930	90	104	68	88	91	97	124	129	157	230	187	68	78	86
1931	104	88	79	86	104	100	101	65	117	246	295	96	102	98
1932	87	101	94	102	110	104	115	114	172	148	130	112	89	85
1933	85	90	64	84	93	88	72	84	84	132	78	93	84	85
1934	94	82	54	57	63	83	68	48	76	82	92	51	74	94
1935	107	104	95	95	113	99	106	114	114	71	68	102	90	92
1936	92	88	66	113	64	85	52	41	54	115	84	78	91	100
1937	100	104	119	105	117	105	96	122	101	85	104	134	106	106
1938	108	105	109	97	106	104	114	120	102	146	126	102	103	102
1939	93	99	111	90	100	107	132	103	129	83	118	84	110	100
1940	103	108	106	112	120	106	119	124	137	126	144	101	113	98
1941	100	102	121	117	118	104	146	179	179	294	245	133	90	105
1942	113	117	132	136	137	113	177	194	223	286	321	130	95	111
1943	105	109	128	144	126	114	126	178	165	200	191	106	96	107
1944	110	112	129	151	130	107	160	181	189	281	343	137	91	112
1945 1/	117	109	133	154	130	113	154	194	206	297	277	128	97	104

1/ Preliminary.

Table 36.- Operating expense per unit of production and total cost per unit of production, typical family operated farms, by type, 1930-45
Index numbers (1935-39 = 100)

Calendar year	Dairy farms		Corn Belt farms				Spring wheat farms (Northern Plains)			Winter wheat farms (Southern Plains)		Cotton farms		
	Central New York	Southern Wisconsin	Cash grain	Hog-beef fattening	Hog-beef raising	Hog-dairy	Wheat-corn-livestock	Wheat-small grain livestock	Wheat-roughage livestock	Wheat	Wheat-grain sorghum	Southern Plains	Black Prairie	Delta of Mississippi
	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent
	Operating expense per unit of production													
1930	129	113	178	125	121	126	94	84	67	49	64	134	130	184
1931	92	108	129	109	89	104	95	143	72	39	36	83	89	102
1932	86	80	89	73	67	80	71	64	39	54	69	61	85	102
1933	89	85	118	81	74	86	101	81	76	56	106	78	93	108
1934	94	101	153	151	148	110	168	174	110	96	90	164	114	97
1935	87	88	89	112	92	85	78	66	57	125	133	92	100	101
1936	104	108	138	82	140	110	173	214	206	78	114	116	105	101
1937	114	102	85	104	86	104	98	68	96	111	90	89	102	102
1938	91	98	94	98	89	102	83	72	80	66	78	92	100	99
1939	104	104	94	104	93	99	68	80	61	120	85	111	93	97
1940	103	93	101	89	82	100	78	68	57	75	69	103	98	100
1941	117	110	97	94	92	114	68	52	48	39	46	102	135	110
1942	121	110	99	94	90	122	63	55	45	39	37	124	154	125
1943	151	132	114	104	112	145	97	68	66	58	65	145	167	140
1944	170	138	122	108	118	171	80	69	68	45	42	145	197	151
1945 1/	166	152	123	111	124	172	87	68	66	44	52	154	201	158
	Total cost per unit of production													
1930	142	131	163	144	132	129	99	86	74	58	72	145	133	155
1931	106	127	106	114	92	98	90	119	75	41	38	79	77	81
1932	96	89	65	72	62	68	64	52	38	51	62	56	72	79
1933	91	89	87	77	66	73	91	76	79	52	96	76	87	91
1934	92	102	121	129	119	96	126	149	92	100	89	167	122	106
1935	91	89	94	102	86	91	80	67	63	126	127	96	107	103
1936	105	108	127	81	135	110	164	194	208	82	117	120	111	105
1937	107	102	97	106	92	106	100	80	83	109	93	82	95	90
1938	94	98	88	101	91	97	82	72	79	67	77	95	94	101
1939	103	103	94	110	96	96	74	87	67	116	86	107	93	101
1940	98	89	102	101	87	97	83	75	63	76	72	102	95	112
1941	113	108	111	109	101	114	81	69	59	46	55	106	142	136
1942	122	109	124	117	108	124	88	86	62	56	56	121	150	147
1943	151	133	148	135	141	151	140	115	100	84	95	162	183	179
1944	165	142	159	143	148	174	131	125	99	70	73	182	214	165
1945 1/	163	159	165	145	156	176	147	129	101	74	90	194	218	176

1/ Preliminary.

Table 37.- Total cost (exoluding price change) per unit of production and power and machinery used (quantity), typical family operated farms, by type, 1930-45
Index numbers (1935-39 = 100)

Calendar year	Dairy farms		Corn Belt farms				Spring wheat farms (Northern Plains)			Winter wheat farms (Southern Plains)		Cotton farms		
	Central New York	Southern Wisconsin	Cash grain	Hog-beef fattening	Hog-beef raising	Hog-dairy	Wheat-corn-livestock	Wheat-small grain-livestock	Wheat-roughage livestock	Wheat	Wheat-grain sorghum	Southern Plains	Black Prairie	Delta of Mississippi
	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent
	Total input per unit of production													
1930	113	100	146	115	108	108	72	62	54	44	54	135	118	146
1931	99	116	119	113	90	100	84	132	70	37	33	91	88	96
1932	109	96	95	91	81	92	72	62	42	59	73	74	103	127
1933	111	106	138	106	93	107	119	88	93	63	120	86	110	119
1934	102	115	178	163	146	117	132	181	104	105	98	195	138	117
1935	95	93	97	101	79	98	78	64	60	130	137	93	110	123
1936	106	110	143	87	151	115	188	234	224	78	115	128	108	95
1937	103	97	80	97	81	95	92	62	77	110	89	71	87	80
1938	91	97	90	104	92	97	77	65	78	64	76	94	102	102
1939	105	103	90	111	97	95	65	75	61	118	83	114	93	100
1940	99	90	97	95	85	93	74	63	56	75	67	94	93	115
1941	102	97	86	97	87	97	59	43	44	35	42	73	123	103
1942	95	86	80	83	77	91	51	44	37	36	32	73	113	92
1943	102	91	83	79	87	90	72	48	51	52	54	83	107	103
1944	97	90	84	79	86	101	58	48	46	37	30	74	114	101
1945 1/	93	95	85	79	87	97	60	45	43	37	39	84	104	109
	Power and machinery used (quantity)													
1930	117	109	121	122	123	116	139	137	147	141	143	91	105	103
1931	115	107	118	119	119	111	133	127	139	135	137	89	104	101
1932	111	102	111	112	111	104	122	116	127	123	126	80	100	98
1933	104	96	102	103	101	97	110	107	116	109	112	75	95	96
1934	96	89	94	94	94	91	100	98	107	96	99	72	91	93
1935	93	88	90	91	91	88	94	95	102	92	93	88	94	95
1936	92	88	91	93	90	88	96	98	98	92	92	93	96	97
1937	93	95	98	98	94	94	99	99	99	97	96	103	100	98
1938	104	108	108	106	107	109	103	102	100	106	104	107	104	104
1939	118	121	113	112	118	121	108	106	101	113	115	109	106	106
1940	122	121	111	111	118	123	111	111	100	117	118	106	106	107
1941	123	119	110	109	116	120	123	117	105	118	121	110	124	107
1942	128	124	118	116	127	124	133	122	113	128	131	116	136	110
1943	131	124	126	124	135	131	134	122	114	139	139	122	137	113
1944	131	123	129	124	138	129	136	121	122	142	143	118	137	113
1945 1/	143	134	145	139	151	141	134	121	125	150	151	130	147	117

1/ Preliminary.

Table 38.- Prices received and prices and wages paid, typical family operated farms, by type, 1930-45

Index numbers (1935-39 = 100)

Calendar year	Dairy farms		Corn Belt farms				Spring wheat farms (Northern Plains)			Winter wheat farms (Southern Plains)		Cotton farms		
	Central New York	Southern Wisconsin	Cash grain	Hog-beef fattening	Hog-beef raising	Hog-dairy	Wheat-corn-livestock	Wheat-small grain-livestock	Wheat-roughage livestock	Wheat	Wheat-grain sorghum	Southern Plains	Black Prairie	Delta of Mississippi
	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent
	Prices received for products sold													
1930	131	118	115	111	112	113	103	98	99	89	93	108	108	98
1931	97	81	73	79	77	78	69	70	70	52	52	65	61	60
1932	70	60	45	56	52	53	51	49	50	42	44	59	62	64
1933	77	62	56	50	54	54	61	71	61	54	65	82	82	84
1934	83	71	75	61	61	65	62	75	60	76	76	94	122	124
1935	96	97	102	106	101	102	99	100	99	102	104	113	111	109
1936	107	109	112	99	105	110	106	107	104	111	115	114	123	127
1937	105	112	116	116	112	113	119	123	114	118	115	89	94	87
1938	94	95	84	92	94	93	89	84	95	85	81	91	83	88
1939	98	87	86	87	88	82	87	86	88	84	85	93	89	89
1940	104	92	92	85	90	85	88	92	95	82	82	97	90	94
1941	123	124	121	113	120	114	121	122	121	100	103	145	151	167
1942	143	153	149	146	154	148	149	142	139	134	129	172	173	188
1943	182	183	173	154	174	172	182	179	173	168	172	201	198	197
1944	207	194	180	146	174	171	184	195	182	171	197	204	202	200
1945 1/	218	205	190	154	190	188	196	202	191	181	207	211	217	204
	Prices paid including wages to hired labor													
1930	115	119	123	119	121	123	123	125	122	110	114	115	119	111
1931	93	98	109	98	107	106	109	108	106	102	105	92	99	94
1932	73	85	94	81	91	87	95	92	92	87	93	76	87	86
1933	79	82	86	82	84	81	87	88	85	85	90	89	90	93
1934	91	89	91	88	91	88	95	96	104	95	96	92	97	97
1935	97	96	95	96	95	93	96	97	95	99	99	99	101	100
1936	99	98	99	98	99	98	98	98	97	98	99	99	102	103
1937	110	105	103	103	104	104	103	102	108	102	101	104	104	107
1938	98	102	102	102	102	103	103	103	100	101	101	99	98	95
1939	96	99	101	101	100	102	100	100	100	100	100	99	95	95
1940	98	100	100	100	99	102	99	101	102	97	98	101	96	96
1941	107	110	105	107	104	110	104	105	104	104	103	114	105	110
1942	123	125	114	119	115	124	114	112	114	106	108	131	122	131
1943	142	143	126	136	130	145	128	127	131	110	116	152	139	145
1944	165	150	129	141	135	153	132	139	148	116	127	155	153	152
1945 1/	163	155	130	144	136	157	139	146	158	116	126	151	160	154

1/ Preliminary.